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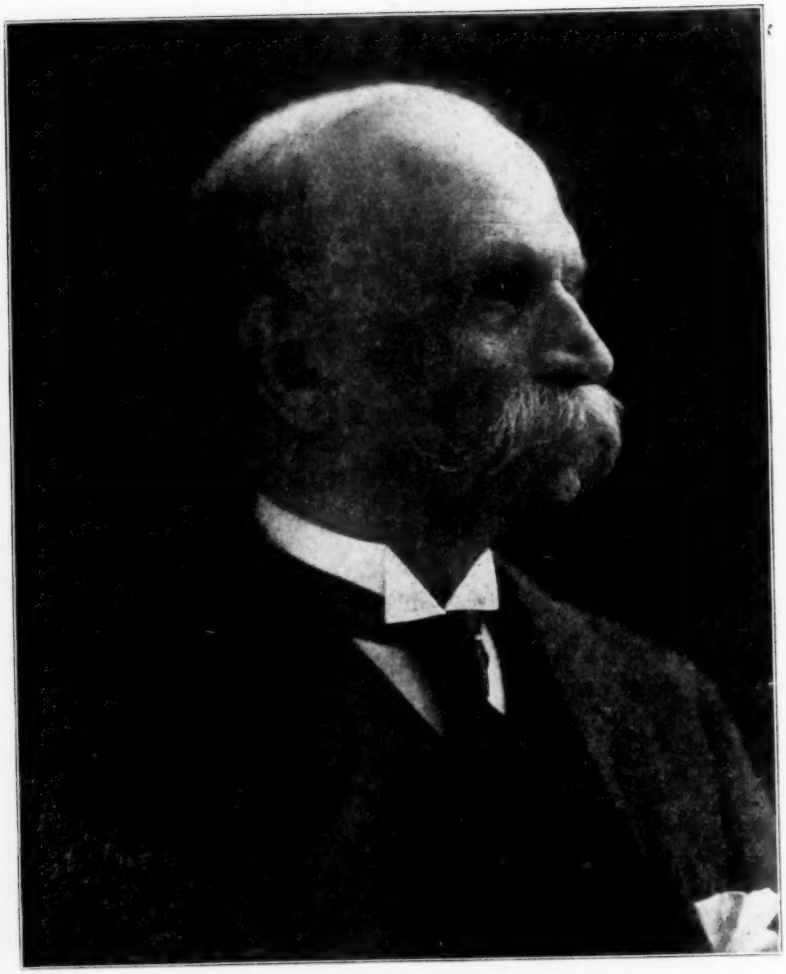
CHARLES FREDERICK CHANDLER

NEW YORK

Member American Pharmaceutical Association, 1867–1917



CHARLES FREDERICK CHANDLER

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. VI MARCH, 1917 NO. 3

CHARLES FREDERICK CHANDLER.

With few exceptions, the sketches which appear on this page are not intended as complete records of the activities of these individuals, but, in a measure to honor those who have directly or indirectly contributed largely to pharmacy, and while they are still with us. The following data of a useful life will therefore only briefly speak of the beneficent influences exerted by the subject and the valuable services rendered by him in other departments of science, through which humanity has benefited.

Charles Frederick Chandler was born in Lancaster, Mass., December 6, 1836, the son of Charles Chandler, a merchant of New Bedford. The American ancestry of Dr. Chandler is traced back to William Chandler who came from England in 1637 and settled in Roxbury, Mass.

The subject of this sketch attended school in Lancaster and New Bedford and even his younger years indicated the scientific trend of his mind, for his vacations were spent in collecting minerals and listening to lectures in the town lyceum by Prof. Louis Agassiz. After studying in the Lawrence Scientific School, where he received further instruction from Prof. Agassiz, he went abroad and took courses in the Universities of Berlin and Göttingen. At the latter university he studied under Professors Wöhler and Weber, and later, coming to the University of Berlin, he studied mineralogy with Prof. Gustav Rose, physics under Prof. Dove, and applied chemistry under Prof. Magnus.

Through the influence of Prof. Wöhler and Prof. Joy, he obtained the position of private assistant to Prof. Heinrich Rose. In 1856, he received the degree of "Ph.D." from the University of Göttingen, for his researches in mineral chemistry.

Early in the following year Prof. Chandler returned to the United States and accepted the position of chemical assistant at Union College, Schenectady, in the newly established laboratory under Prof. Charles A. Joy. The latter came to Columbia College in April of the same year, when Prof. Chandler succeeded him and remained with this institution until 1864 when he joined the Columbia faculty, and with Prof. Egleston and General Francis L. Vinton established the Columbia School of Mines, which from the very beginning was a success. Prof. Chandler was made dean of the faculty and professor of analytical and applied chemistry. In 1872, he became adjunct professor of chemical and medical jurisprudence in the College of Physicians and Surgeons, and held this position for nearly twenty-five years.

Soon after coming to New York City, Prof. P. W. Bedford requested Prof. Chandler to aid in the development of the College of Pharmacy in the City of New York, and this additional work as professor of chemistry, he also accepted

and retained active connection until a few years ago, and still evidences a deep interest for pharmacists and that institution, expressed in his own words at the Testimonial Dinner tendered to him March 28, 1910.

"Wherever I see the green and red lights of the apothecary in New York there I know I have a friend. I never go into a drug store but that some one comes up and tells me he was of the class of '69, of '80, or possibly a junior student still. Sometimes they are boys but newly matriculated at college. Sometimes they are old gray haired men whose stooping shoulders and faltering footsteps make them seem older than I myself; always they are friends. This has been my highest reward, this has been my most cherished compensation. The feeling that I may have helped in the upbuilding of the institution, have aided in the formation of the minds of the rising generation of pharmacists and that this help has brought me the friendship of my students is a source of pride and will remain a source of pleasure so long as I live. Although this has been announced as a farewell address, I shall not say farewell, for so long as I am able to go anywhere, I shall come to the meetings of the New York College of Pharmacy, there to meet the friends of a lifetime, dear friends, from whom I hope never to part."

Professor Chandler has received the following degrees: Master of Arts and Doctor of Philosophy in 1856, from the University of Göttingen; Doctor of Medicine in 1873, from University of New York; Doctor of Laws in 1873, from Union College; Doctor of Science in 1900, from Oxford University. It is needless to enumerate the various American and foreign associations and societies of which he is an honored member. He took part, as president, in the centennial of the discovery of oxygen at Priestley's home in Northumberland County, Pa., in 1874, and it was out of that celebration that the American Chemical Society, of which he was twice elected president, grew. He was chosen president of the Society of Chemical Industry in 1899, the first American to receive this distinction. He became a member of the American Pharmaceutical Association in 1867 and hence this year he celebrates the golden anniversary of his connection with this organization.

Professor Chandler's work aside from teaching has largely been in industrial chemistry and his thoroughness emphasized in his courage and sincerity of purpose. An attempt at giving a summary of his services for the University, City, State and Nation would not do him justice. So let it suffice to say that whatever he undertook to do, he did thoroughly, and everywhere and always he had the performance of duty in mind.

Commemorating the long years of useful services, a number of pleasant functions were arranged by the departments of Columbia University and other organizations, following Professor Chandler's retirement in 1910.

Professor Chandler was elected first honorary member of the Society of Older Graduates of Columbia and a beautifully engrossed certificate of membership presented to him. The testimonial of the Chemists of America took the form of a bronze bust of Doctor Chandler, in heroic size, executed by J. Scott Hartley, presented by him to the Chandler Museum of Columbia University; a replica of this bust was presented to Mrs. Chandler, who gave it over to the keeping of the Chemists' Club; the Chandler Testimonial Fund was also established for the purpose of purchasing books for the library of the Chemists' Club. The College of Pharmacy presented several loving cups and engrossed resolutions of appreciation; similar action was taken by other departments of the University. The alumni of the University provided for the Chandler Lectures, and a gold medal to be given to the lecturer; the fund so created is known as the Charles Frederick Chandler Foundation. The chemical museum was named the Chandler Chemical Museum, Professor Chandler was elected emeritus professor and many other distinctions and recognitions were given him.

A testimonial number of Columbia University Quarterly was published June, 1910, and named for Professor Chandler, in which the many interesting events of his life are given with some detail, and more particular reference is made

to the tributes paid him by officers, faculty, alumni, fellows, and representatives of scientific and other institutions and organizations.

The following lines from the address of Dean John Howard Van Amringe will serve to close this sketch: "You learned from him not only chemistry, but habits of mind and thought, lessons of life and conduct so administered as to burn them into your consciences and leave behind no wound or scar. His wit and humor played over all his discourse, and his illustrative anecdotes and stories have become college classics. Think of the educative and constructive power exerted by such a man, working for nearly half a century with young men now scattered all over the globe, and of his continuing influence, through his pupils, on generations to come." E. G. E.

WILLIAM CHARLES ALPERS.

The sad news conveying the information of ex-President Alpers' death came after the matter prepared for this section had been put in type; several pages are devoted to his memory under Obituary. For other biographical references, see also Vol. III, p. 1722, and Vol. IV, pp. 1014, 1086.

William Charles Alpers, ex-President of the American Pharmaceutical Association, died February 20, 1917, at his home in Cleveland, Ohio. While the news was not unexpected to those who were advised relative to his impaired health, the announcement came as a shock to his many friends and is a source of regret and sorrow to the members of the American Pharmaceutical Association and pharmacists generally. Doctor Alpers had been ailing for some time, but neither he nor his family were much alarmed over his condition; soon after returning to his home, however, for the opening of the Cleveland School of Pharmacy, of which the deceased was dean, an operation was advised which disclosed the serious condition, that a number of months later terminated his life.

The first paper presented by Dr. Alpers before the American Pharmaceutical Association was read at the Denver meeting in 1895, and entitled "Proposed Curriculum for Candidates before Boards of Pharmacy," and the year following he contributed a paper on Gelatine Capsules. Both attracted considerable attention; since that time the indices of the Proceedings and JOURNAL evidence the activities of the deceased for pharmacy and the Association. He was also a frequent contributor to other pharmaceutical journals and societies, and was associate editor of *Deutsch Amerikanische Apotheker Zeitung;* the sketch of Doctor Alpers under Obituary is contributed by Editor Hugo Kantrowitz of that publication.

Dr. Alpers was, at the time of his demise, a member of the Council of the American Pharmaceutical Association and was twice, during previous years, vice-chairman of that body. He presided as chairman of the Scientific Section in 1897, of the Section on Practical Pharmacy and Dispensing in 1906, of the Section on Historical Pharmacy in 1914, and was president of the Association 1915–1916.

He was a member of the Revision Committee, U. S. P. IX, and chairman of the sub-Committee on Syrups and Elixirs. He was an ex-president of the New Jersey Pharmaceutical Association and for a number of years a member of the State Board of Pharmacy.

The earthly record of an active life has been closed in the passing away of Dr. William C. Alpers, the sixty-third president of the American Pharmaceutical Association.

EDITORIAL

E. G. EBERLE, Editor 253 Bourse Bldg., PHILADELPHIA

THE MENACE OF COMPULSORY HEALTH INSURANCE.

THE United States seems to be facing an era of socialistic legislation, and it behooves the business men of the country to bestir themselves if they would escape one blow after another at their continued success or even existence.

During the last two or three years a group of academic philosophers have sought to foist on America the principle of compulsory health insurance. Bills were introduced in three legislatures last winter, and others are pending at this very minute in the legislatures of Connecticut, Massachusetts, Ohio, New York and Michigan. Before many weeks go by, these measures will make their appearance in still other legislatures throughout the country.

What does compulsory health insurance mean to the druggist?

It pretty nearly means the destruction of his pharmaceutical business. The scheme provides that every manual laborer and employee of any kind who receives less than $1200 annually shall be a beneficiary. If he suffers from illness or accident, he shall receive two-thirds of his normal pay while laid up, and he shall be provided with free medicine, free medical service, free surgical service, free hospital service, and even free funeral and death benefits. If any members of his family are sick at the same time, they also shall be brought within the scope of the protection. Women undergoing maternity at the time of their employment are to be surrounded with the same beneficent care.

Inasmuch as three-fourths of all wage earners are paid less than $1200 a year, it is evident that three-fourths of the pharmaceutical business of the druggists of the United States will be deflected to the "operating units" or quasi-public dispensaries that are to form a part of the plan. How will the druggist relish the idea of losing 75 percent of his pharmaceutical trade?

More than that, the druggist must also suffer as an employer. Forty percent of all this insurance cost is to be borne by employers, 40 percent by employees, and 20 percent by the State. The druggists' clerks automatically become compulsory beneficiaries, as soon as the law is enacted, and that very instant the druggist begins paying a tax involving every employee in his store.

And of the 20 percent of this tremendous expense borne by the State, it need only be said that this also harks back to the druggist as it does to all other citizens. It has been carefully estimated by statistical experts that in the State of Indiana the adoption of compulsory health insurance would increase the State taxes from $1,600,000 to $6,800,000. Think of it! In Ohio the State taxes levied against real and personal property would jump from $3,300,000 to

$13,700,000, and in New York State the increase would be from $20,000,000 to $41,000,000.

Already the burden of taxation has been sufficiently increased within the last year or two. Corporations have been particularly affected—and there are corporations in the retail drug business as everywhere else. Within the last two years corporations have been made to pay an income tax of 2 percent on their net profits, and they are also paying 50 cents for each thousand dollars of their capitalization. If the so-called excess-profits tax is imposed by Congress, as it probably will be before this article is published, it will mean a still heavier drain upon all corporations and partnerships in the drug trade and elsewhere. If a drug company, having sales of $100,000 a year, earns a net profit of $10,000 on assets of $20,000, it will be allowed by the government to escape taxation only on the first 8 percent, plus $5000 of general exemption. Eight percent of $20,000 would be $1600, making $6600 of total exemption, and on the remaining $3400 the company must pay 8 percent—a nice little figure of $272!

Add to these burdens the threat of compulsory health insurance and it is about time that the druggists of America began to stand up for their rights. If they don't, they are likely to be engulfed with losses and impositions of a hundred kinds. Compulsory health insurance is one of the most visionary schemes that was ever foisted upon a credulous people, and it ought to be given its death knell at the very outset of the movement. It isn't needed. It wouldn't work. It is open to a thousand objections, and business men of all kinds should see to it this winter that the State legislatures of the country are set right on the proposition.

With here and there an exception, the great body of organized labor is against the movement. Samuel Gompers himself is particularly opposed to it. The workman sees that compulsory health insurance would in the end cost him much more than private insurance costs him, and on general principles he is afraid, and justly afraid, of the political management in America of what really ought to be private enterprise. More than that, a shrewd laborer realizes that compulsory health insurance will mean that employers, out of sheer self-protection, will reject every man whose health is not of the best. The "army of the unemployed" would become a substantial fact instead of a figment of the imagination.

The National Drug Trade Conference, organized under the aegis of the American Pharmaceutical Association, has taken its official stand in opposition to compulsory health insurance, and it has decided to do what it can to defeat the movement. The American Pharmaceutical Association, as the leading spirit in the Conference, will of course support this attitude, and it remains for the legislative committees of the various State pharmaceutical associations to get in line and help defeat one of the most serious threats with which the American druggist has ever been faced.

HARRY B. MASON.

HOW TO GET THE MOST OUT OF AN ASSOCIATION.

THE only way to get the most out of an association is to put much into it. The members of an association are interdependent; every thought and action by the individual affects to a greater or less degree every other one—the association. The motives of the members make the association what it is, and these are manifested in deeds and actions and reflected in and by them. Comparatively few of the members think about the association and yet the success of it depends upon their thoughts—activated thoughts.

The permanence and growth of an association depends on a coördination of varying traits and qualifications of the individuals. This is what enhances the work of an organization, of a government, over that of an individual. The individual would develop those ideas, or things he is familiar with, those that appeal for one reason or another to him, but these alone can not constitute a government nor give perfection to an organization. As the individual's elevation of character and quality is dependent upon his ideals, so also is that of an association dependent upon these ideals, not of the one but of the many, and so long as these ideals are high, even though they differ in kind, if there really is aspiration to reach them, there will be progress.

A representative city has its commercial and manufacturing enterprises, its educational and religious organizations, in which the citizens exhibit their individual or composite ideals. There is a difference, but the high aspirations involve right service. So an organization represents different types and varying qualifications, and while the ideals of the individuals are not the same, there is a predominant spirit of altruism in every successful association.

A municipality not only fosters worthy enterprises, but like life, the good is checkered with evil. And organizations have their defects, their mal and miscontents. Every enterprising city has its carping critics and its lifters, within and without—individuals and aggregates. The municipality owes its progress to those who work for its development, without predominating thought of self, with a willingness, with a genuine purpose to benefit others, with a vision that comprehends the efforts of others. The outside influences may create a doubt in the minds of patrons in contributing territory relative to the ability of caring for their needs; instil a spirit of resentment through charges of disregard for their patronage, and thus the possibilities of a growing metropolis are hampered. Within, one industry may antagonize the other, for preferential or other reasons, the citizens may become indifferent or lose confidence, and thus an industrial center, instead of growing becomes dwarfed, for no other reason than that the spirit of coöperation is chilled, not because the opportunities are less but because of an artificial prejudice. So also an association may have some discontents. This does not mean that the purpose of the organization will not prevail, however serious or un-

desirable the hindrances may be. There may be carping critics within, or certain plans of the association may not have the approval of those without, or other disturbing influences. Instead of stopping the leak, there is an attempt to enlarge it. The whispered gossip becomes a thundering charge. One may view the cloud as an impending catastrophe, while another awaits the clearing atmosphere. Sincere, active coöperation, loyalty and restoration of confidence are essential to a successful outcome.

Frederick Oakes Sylvester wrote:

> "I like the man who goes
> Not songless to the common tasks of life,
> But twines a flower round his tools of trade;
> Who boasts not what he does, nor what he knows;
> Who brings no sword but love to conquer strife;
> And, king of self, of nothing is afraid."

Having drawn comparisons that may be made between a municipality, or a government, and an association, a few thoughts relating more particularly to associations and their constituency are presented, and should be taken as general views, not of any specific organization. We are agreed that associations are helpful and this constitutes the chief reason for their organization; not to build up in order to see how much more quickly they may be destroyed, but to be continued for permanent good of the members.

The history of an association should not be so much a record of words but of acts, and so the influence of the organization is not measured by years but by achievement. Therefore the service of the member is measured by constructive deeds, upbuilding, lifting, pulling, purifying, ennobling. And on the other hand the value of a member can not be estimated by the harmful things he has refrained from doing but only by the real good he has done for the association. Keeping silent may not discourage, but certainly does not encourage; the act of helpfulness is what is needed. The inactive member may not take part in destruction, neither does he hold the hand that would do so. He may not pull back, but those who shoulder the burdens of the association have no help from him and carry him; he uses the benefits of association but contributes none; he shares the fruits of the association labor, without having had part in their cultivation. Active participation is what is needed.

Adam Smith says, "Let every man be occupied, and be occupied in the highest employment of which his nature is capable, and die with the consciousness that he has done his best."

The optimistic member looks upward and presses forward; he sees the possibilities of coöperative and coördinated endeavor, while he who is pessimistic looks backward and downward, halts in contemplation of fear that someone may profit more than he, disparages the integrity of his confrères and declares his doubt in

their ability. The former expresses confidence, lends a helping hand and hopes to do more, and says, "I will;" while the latter magnifies his own virtues, minimizes those of others, lauds his own work and criticizes that of others.

As in every-day life so within an association, the human trait of criticism is largely responsible for hindering progress. And not alone that, it may make enemies of friends, engender envy, jealousy and dislike; makes antagonists out of coöperators. Openly spoken, this is perhaps not so vicious as under the pledge of secrecy which seldom is preserved, to emphasize the weakness of others and to minimize their good points, to drag forth the skeleton from the closet rather than hold up to view the beauty of the living.

William Penn said, "In all debates let truth be thy aim, not victory, or an unjust interest; and endeavor to gain rather than expose thy antagonist."

DeWitt McMurray says, "The greatest charity is that which attributes honest motives to others; which sees good where less just and less loving eyes might see evil."

Count Tolstoi said:

"Men think there are circumstances when one may deal with human beings without love; and there are no such circumstances. One may deal with things without love; one may cut down trees, make bricks, hammer iron, without love; but you can not deal with men without it, just as men can not deal with bees without being careful. If you deal carelessly with bees you will injure them, and will yourself be injured; and so with men."

The growth of coöperation makes for the growth and strength of an organization, and reversely, the importance of the work for which the association is established can be measured by the degree of coöperation among its members. That which has little importance, brings to it little support, and the outside world accepts the judgment of the votaries. It is therefore most essential, if an association desires an appreciation of the work for which the members are enlisted, that they themselves become enthusiasts. It is the service in and for the association that brings out the best that is in the member and thereby he as well as his confrères become beneficiaries. An association may be put into innocuous desuetude by destroying its possibilities for doing work. Not every organization can stand the same jolts, nor continued quakes.

Thinking must join with intelligent conception of the purposes of the association. Those who think right are moved by reason; those who think wrong by impulse. The impetuous and impulsive are erratic and can not arrive at conclusions which are gained from intelligent and logical deductions. Right thinking is constructive and leads to success; wrong thinking is destructive and leads to failure.

E. G. E.

A DISCUSSION OF COMPULSORY HEALTH INSURANCE.*

BERNARD FANTUS, M.D.

There are two questions in connection with Health Insurance that must be settled, and which should not be confused with each other. The first question is, whether this form of insurance is necessary or desirable; and the second question, what is the best method of obtaining the result aimed at. Nearly everything that has been said against Compulsory Health Insurance may be characterized as objections to method. Very little has been said against the desirability and the necessity of this protection. To stigmatize this movement as pauperizing or charity is just as erroneous as it would be to stigmatize life insurance or fire insurance in this manner. It would be well if everybody, even the moderately well-to-do, would combine and elaborate a plan for themselves, by means of which they could obtain good medical, nursing and hospital service without additional expense to them when they are sick; for that is the time, when they are least able to pay for it. A plan of this kind has been beautifully elaborated by Richard Cabot in an article entitled "Better Doctoring for Less Money," published in the *American Magazine*, in which the desirability of "group practice" by physicians has been strongly emphasized. The health insurance plan, as proposed, includes the elaboration of group practise to whatever extent practicable. It, indeed, aims at "better doctoring for less money."

Health insurance properly elaborated would be a great thing, not only for the laboring man but for everybody, excepting possibly the extremely rich. I believe no one can dispute the proposition that the time to take care of sickness is while one is well. The provident naturally do this; and ought to be glad to avail themselves of a good system of obtaining this result. The improvident ought to be made to provide. I, therefore, see no possible objection to the desirability and necessity of the proper kind of health insurance.

As to the second question, the one referring to method, a great deal will have to be said. While the public might be provided with better doctoring for less money, this would not necessarily mean that physicians and others such as pharmacists would necessarily receive insufficient pay for their services, for there is at present a great waste of time and effort, a waste of time while doctors are waiting for patients and effort in making long distance calls into territory that should properly be taken care of by one nearer home. Doctors could accomplish a great deal more and would not be obliged to charge as much for their services. There would be no necessity for charity work, and there would be no bad debts; hence, it would be possible to work for smaller fees, and yet earn more in the end. It behooves pharmacists and physicians to study this question of method very carefully indeed. For this reason, I move that a committee be appointed by the chair which is to be charged with the duty of investigating the plan proposed at the present time, and reporting to the society the results of their investigations, in the near future.[1]

* Chicago Branch A. Ph. A., January 1917 meeting. See also JOUR. A. PH. A., p. 1166, November 1916 issue; p. 1407, December 1916; p. 41, January 1917 number.

[1] Such a committee was appointed by Chicago Branch A. Ph. A., Dr. J. H. Beal, *Chairman*.

EDMUND N. GATHERCOAL, PH.G.

Compulsory Health Insurance coöperatively conducted by all the individuals of a state or nation, it appears to me, should be of the greatest value to the individuals of such state or nation for the following reasons: First, because it should tend to raise the standard of the public health; second, because it should provide the best medical treatment during sickness for each individual of the state; third, because the benefits mentioned under points first and second should be obtained at a low per capita cost.

If all the individuals of a state are not included under the compulsory insurance, class legislation at once results. If the insured are limited to those earning $100.00 per month or less and the insurance is a good thing, then the person receiving $105.00 per month thinks he should be included. I have heard mention of pauperism applied to this insurance scheme. If all persons without regard to their property possessions are included, then the charge of pauperizing immediately falls. Furthermore if a very slight percentage tax be placed on every income, the resulting amount would be sufficient to carry the whole insurance scheme without being onerous to the poor or to the rich. Such a tax on the boy or girl earning $5.00 per week probably would not exceed $2.50 per year.

Again, I believe that if this is to be a state law that the state should exclusively handle the administration of the whole law. If existing insurance associations among the employees of a certain factory or business are especially worthy they can continue to exist even after the state insurance has been established. State health insurance would not interfere with life insurance nor with pension associations. The payment of the insurance tax by the individual should be collected at the source of income by means of stamps and the tax should be entirely paid by the individual not partly by the state and partly by the employer.

Regarding the second point that all should receive the best medical attention, there seems to be no doubt that if the entire medical resources of the state, including hospitals, asylums, sanitariums, laboratories, quarantine and inspection service, medical, dental, pharmaceutical and nursing service be combined and coördinated into one harmonious whole that every citizen could have the best treatment that medical science affords. Not alone would all receive proper treatment in sickness but the amount of sickness and the death rate from sickness would be materially reduced.

However, the draft of the Compulsory Health Insurance law now under discussion inspires about as much confidence in me as in you. It is distinctly class legislation, drawn in the interests of labor organizations, designed to tax the state and the employer for a large share of the cost of the insurance. It appears to be very complicated in its administrative features and provides for many new political berths which will of course attract the politicians. The proposed bill has most of the features of the English Health Insurance Act which is being much condemned.

As pharmacists, if the English pharmacist's experience is any criterion, we had better stay out of it. For, in England, while it is true that the number of prescriptions compounded is much increased, yet the established prices are so low that the net returns are not adequate, and there is general demand that the pharmacist's position under the law be improved.

JULIUS H. HESS, M.D.

An act for Health Insurance is to be presented in the near future to the legislature of Illinois. Many arguments have been offered by the friends of such an act contending in its favor from the standpoint of the social worker. After attending two meetings in which the proposed measure has been the subject of discussion, I have been impressed by the fact that but few members of our profession have sufficiently interested themselves to ascertain the exact relationship which such an act will bear to the future of the practice of medicine in our State, and moreover, in the United States, as the same bill will be under consideration in the legislatures of most of the states of the Union.

We are told that the subject of social or health insurance has come to stay in this country, and that the medical profession can not afford at the present time to oppose the general subject of health insurance. With the first of these propositions I am inclined to agree; but that, at this moment, we can not afford to oppose the passage of such a bill, more especially in the form in which the present one is drafted, I must disagree.

We are also told that in Germany the law has materially benefited the medical profession. The answer to this argument is best made by quoting from the inaugural address of the president of the University of Munich—the second largest government university in Germany—November 28, 1908, after twenty-five years of trial as such a statute in Germany. He states: "Only a few physicians have benefited by such legislation, that is, those who have been appointed by the insurance organizations. These appointed physicians have fallen into dependence upon these insurance organizations and their managers, and this condition of control of the profession has been further strengthened by the centralization of the insurance organizations. The managers of the insurance organizations, have in many instances, assumed the position of employers toward physicians, and the determination of the fee has been left to the organization and had to be accepted by the physician. Under these conditions the income of many physicians has scarcely been higher than that of the better tradesman, entirely out of proportion to the cost of his education, and insufficient for the social position of the physician. By the faulty legislation which expects everything from the physician's sense of duty, without doing anything for the protection of his rights, and by the terrorism of managers of these health insurance organizations, great humiliation of the medical profession has resulted."

"It is irony when the physician, whose independence in every direction is a condition *sine qua non*, becomes a vassal of the manager of the insurance organization, being subject to his temper and humor."

"Whenever the physician is dependent upon the insurance organization and its members, who very easily imagine that they are wronged or that they are not getting everything they deserve, this condition must have a demoralizing effect."

"For the protection of their interests, which have been considerably endangered by health insurance, the physicians of Germany have joined in the so-called Leipzig Union, an organization to which the great majority of the physicians in Germany belong."

He further states that, while in Germany the wages in all the trades and occupations have considerably increased from the year 1815, being double in many

instances, the physician's fees are not much higher, and in many cases they are even lower than the minimal fees of the Prussian tariff of 1815. And the fees of physicians appointed by the sickness insurance funds are, as a rule, one-half of the minimal fees.

Secretary of State, von Bethmann Hollweg in his speech in the Reichstag on February 9, 1909, said: "..the conditions of the medical profession have been gravely affected by our insurance legislation, and by the extension of the field of operation of the insurance companies, these conditions will not be improved."

"The medical profession requires the privilege of activity as free and as extensive as possible. This freedom of movement of the entire medical profession as a whole, and chance of the individual physician for establishment of a secure position of life, becomes considerably narrowed when large groups of the population have been excluded from free competition. It can not be denied that the sickness insurance has contributed to this end by creating and furthering the system of appointment of physicians by sickness insurance funds."

The writer, being interested in this subject, while on a visit to Germany in 1910, collected a considerable number of statistics and monographs bearing upon the subject of health insurance as administered in Germany. The most complete statistics on hand are those of Berlin, Frankfort, and Magdeburg; and in all of these cities the average amount of premiums, as paid per year by the insured, ranges from 32 to 42 marks (or from $8.00 to $10.00). In these three large cities the physicians received from 4.63 to 5.07 marks, or from $1.00 to $1.25 a year per person insured. This averages from 11 to 16 percent of the total disbursements of the premium as paid in.

In an address before the Chicago Medical Society on January 10, 1917, the Hon. Francis Neilson, M. P. at the present time, and also during the session in which the health bill was introduced in England, speaks as follows: "We want you to be wise in your agitation regarding such legislation as health insurance, and not to make the mistakes we did in Great Britain. We want you to familiarize yourselves with every phase of the subject before securing legislation. After the insurance act went into operation in England, we found there was resentment and dissatisfaction all over the country."

The writer believes that the question of social insurance, or so-called "Health Insurance," has become one of profound interest to the medical profession of this state, and that it will have a great bearing on the future of the whole profession of Illinois, because it involves the question of medical services to all citizens with an earning power of $100 a month or less, and who may come within its provisions. The workers of this class will represent at least 75 percent of all of the active wage earners of the state, and in all probability will have more or less influence on the practice of every practitioner in Illinois.

When we realize the great havoc caused in the profession of Germany by the insurance companies writing health insurance in a commonwealth in which all forms of professional education are under the direct control of the government, graduation from whose universities and practice under a diploma issued by the government, insures the recipient of a real professional recognition by the people—what might not be the consequences in our own country, where the government has little or no real control over the great insurance corporations, and displays

but little official concern in medical education! One can easily realize the possibilities which could arise to the tremendous disadvantage of the profession by the passing of a health insurance act which has been hastily framed and considered.

I believe that the time is not yet ripe for such extreme legislation and that the profession as a whole is inadequately informed as to the meaning of such legislation, and therefore, I think that if health insurance legislation is to be enacted at all, it should first be given the most careful consideration by all parties who will be directly and vitally affected.

The profession of our state should, therefore, thoroughly organize for a careful study of all of the various phases of this question, not alone as it affects themselves but also the commonwealth as a whole. And until such consideration has been given to the subject, it would be unjust to pass such a law. It should not be done.

CLYDE M. SNOW, PH.G.

It occurs to me that the United States is not in the same need of compelling health insurance as are England and Germany, for we do not have the very poor laborer toiling for the very small compensation. I believe that investigation would reveal that the man earning less than $1.25 per day does not exist in the United States. The foreign-born, unskilled laborers earning comparatively small wages generally prove to be land holders after a few years' residence. And we generally look upon such property owners as competent to select their own physicians and pharmacists and I believe that it is a matter of record that *they* pay their obligations. A large portion of the taxes now collected go for the care of the poor and sick. If the same effort were bent to obtain economical handling of these funds, as will have to be expended to pass and administer health insurance acts, those who really need such assistance could be amply provided for without added taxation of the more provident.

If health insurance can be compelled, the compulsory saving of a portion of wages can be enforced; with a savings account, the individual would, in my estimation, be endowed with a greater self-respect and be in a position to take care of himself and family without being placed in the light of an object of charity.

With this method the worker would have the protection sought by a health insurance act without the semblance of charity. The man would be a better citizen, because of having savings which would necessarily be invested in bonds for the raising of funds for municipal and federal improvements; he would have an interest in his community that he never had before. Finally, it is my belief that health insurance, as such, will not improve the individual, at whom it is directed, one iota and it will add further burden to the taxpayer.

HUGH CRAIG.

Health insurance or, as it is sometimes called, social insurance, is a subject that is filled with interest to the pharmacist and the medical man; and in view of the fact that, through the agency of the American Association for Labor Legislation, bills to provide state health insurance are to be introduced in many state legislatures this year, the interest has become that of a condition and not of a theory alone. As is customary, pharmacists and physicians, who are vitally

interested in the solution of the problems at which this project is aimed, have left to social workers, more or less of the reformer type, the initiation of an endeavor toward that solution, and even now that the endeavor is under way, have not shown much concern in the matter, albeit the project has the support of some medical organizations or at least of their executive bodies. The big question is: Is governmental paternalism the desirable remedy for the alleged inadequacy of the medical care of the public? I think not.

Ostensibly, the purpose of the projected health insurance plan is to provide better medical service for the general public at a lower cost. In its general aspect, the project savors very largely of socialism, of paternalistic governmental functioning; it would reduce the greater majority of the citizens of the state to a condition of quasi-pauperism in that it would compel them to accept medical aid from the state. It is not justly to be compared to the ordinary variety of insurance against sickness or accident, because it is forced upon the wage-earner, willy-nilly, and as the state and the employer are to pay all, or the larger portion of, the cost, he becomes involuntarily the object of their charity. It is not to be compared justly to compulsory vaccination or quarantine, because it is not a means of safeguarding the general public against contagious disease.

It is only a few days since I succeeded in getting a copy of the Model Health Insurance Bill prepared by the American Association for Labor Legislation. I know that few of you have had an opportunity to become familiar with its provisions, so I shall state some of them. In the first place, the bill provides that every wage-earner whose income is $100 a month or less must become insured. The cost of this insurance is to be divided among the insured person, his employer, and the state. The state will pay 20 percent. The employer will have to pay on a sliding scale ranging from 80 percent for an employee earning less than $5.00 a week, to 40 percent for one earning more than $9.00 a week. The remainder is to be paid by the employee. The insurance may be issued (1) by local funds, that is, coöperative groups of insured persons in any locality; (2) by labor unions or trade organizations; (3) by fraternal societies organized not for profit; and (4) by the employing person or firm. The supervision of the plan is to be in the hands of a state commission, assisted by representative bodies of employees and employers.

Medical attendance under the plan would have to be certified by one physician, and apparently, extended by another. The selection of a physician is partly voluntary with the insured person, but rules for the allotment of patients are provided, and no physician may have more than 500 insured persons in his care. Medical attendance embraces the services of a physician, medical and surgical supplies, nursing, and hospital service. There is also a provision for a maternity benefit and a $50 funeral fee, and the ailing insured person would receive an additional sick benefit of two-thirds of his wages for a period of not more than twenty-six consecutive weeks. It must be understood that the insuring of a wage-earner provides benefits for all those dependent upon him. This fact is particularly important in connection with the provision for medical and surgical supplies, as the bill specifically limits the cost of such supplies—they include crutches, trusses, sickroom supplies, and so on—to $50 a year for each insured person and those dependent upon him; therefore, the druggist could supply only

$50 worth of goods in one year to any wage-earner's family, even though there be ten members thereof. The family or other dependents of the insured person would also receive a cash benefit of one-third of his wages while he is in a hospital.

Some may think it strange—but it is the usual thing—that no mention of the pharmacist or of pharmacy is made in the bill. It is true that there is little mention of the physician other than as an employee of the insuring organization; but it is provided that the state medical society will have advisory duties in connection with questions of treatment, and I have seen in some medical publications that the local medical organizations will be permitted to advise in the selection of physicians.

Nonpartisan reports do not bear out the claims made in regard to the success of health insurance in Great Britain or even under the paternalistic government of Germany. It is difficult to foresee how any such plan will conduce to medical progress, because its obvious influence would be to foster routine treatment. At one time there was some complaint in Great Britain, that seems to set at naught the statement that the insurance plan will eliminate the dispensing doctor. Over there it was found that doctors of that class sometimes advised a patient that they could not cure him with the cheap medicines permitted under the insurance schedule, but that it would be necessary for him to take some of their "specially prepared, high-grade" concoctions. So we should not be too hopeful; for the astute manufacturer of nostrums can also make capital out of the cheapness of the insurance medicine for the exploitation of his high-priced product.

I am of the opinion that, socially and medically, this question deserves a deal of study before such a revolutionary step is taken. I hope that the discussion here may be enlightening, and that it may lead to further fair consideration of the subject, and to some light as to the cost.

SOLUTION OF MAGNESIUM HYPOCHLORITE.

The following solution is isotonic with blood-serum:

Chlorinated lime	28 Gm.
Magnesium sulphate	18.20 Gm.
Water	1,000 Gm.

The two salts are triturated in a mortar, and the water added by degrees; the solution is then filtered through cotton wool. The solution is very stable, much more so than Labarraque's or Dakin's solution. In contact with wounds, it liberates its chlorine gradually, and it retains its antiseptic properties for a long time. It is no way harmful to the cells, for it is free from irritating substances like boric acid and the borates. For use it should preferably be warmed to 95° F. —Duret (*Journ. Med. et de Chir. Prat.*, August 10, 1916; *Practitioner*, October 1916, 392).—Vide *The Pharmaceutical Journal and Pharmacist*, December 2, 1916, page 526.

SCIENTIFIC SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

PHYTOCHEMICAL NOTES.*

From the Laboratory of Edward Kremers.

83. The Cones of *Pinus sabiniana*.

BY L. J. OSTLUND.

Although the oleoresin and its components of the Digger's pine have been examined repeatedly, the seeds from which the tree derives its popular name, do not appear to have been investigated even in a preliminary manner.

A large quantity of cones having been obtained through the courtesy of the Forest Products Laboratory, the opportunity to make a beginning in this direction seemed too good to be neglected.

The Seeds.—Inasmuch as the seeds have been used by the Digger Indians as food, it seemed desirable to ascertain the amount of food material obtained from one cone. The average number of seeds from a medium-sized cone was found to be 181, eleven cones having yielded 1810 seeds. The total weight of these seeds was 1430 Gm., hence each cone produced, on the average, 143 Gm. of seeds. In other words, each seed weighed somewhat less than one gram. The average weight of a single cone was 610 Gm.

100 Gm. of seeds, having been weighed, were cracked carefully and the kernels collected and likewise weighed after the seed coats had been removed. These kernels weighed 23.2 Gm., hence constitute 23 percent of the seeds. They have a rather pleasant, bland, somewhat oily taste.

When subjected to continuous extraction with heptane, 23.2 Gm. of the kernels yielded 10.8 Gm. of oil, corresponding to 46.5 percent of oil in the kernels, or 10.8 percent of oil in the seeds.

The heptane used was obtained by fractionation of the oil from Digger's pine.

1000 Gm. of seeds finely ground and subjected to continuous extraction with ether yielded 118 Gm. of oil or 11.8 percent. This oil is heavy and thick and has a dark yellow color.

The kernels of 500 Gm. of the seeds deprived of their seed coats subjected to expression produced 30.5 Gm. of a viscid, colorless oil, having the specific gravity of 0.958. Yield, 6.1 percent with reference to seeds. The expression, however, was imperfect.

Fatty Oil Obtained from the Seeds.—So far as the material permitted, some of the more common physical and chemical constants of the fatty oils, obtained as described above, were determined. The specific gravity was determined by means of a Mohr-Westphal balance. The saponification, iodine, and acid values were determined in accordance with the directions given under "Tests, etc.," of the U. S. Pharmacopoeia, 8th decennial revision, pp. 535 and 536. The results are herewith tabulated:

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* Read in abstract before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

	Sp. gr. at 20°.	Sapon. val.	Iod. val.	Acid val.
Oil obtained by extraction of kernels*.....	0.952	....	....	..
Oil obtained by extraction of seeds.....	0.921	136.9	94.6	42
		138	....	44
Oil obtained by expression of kernels.....	0.958	146	108	56
		147.2	....	54

The amount of oil obtained by heptane extraction of the kernels was too small to admit of extended analytical study. The difference between both physical and chemical constants of the heptane extract of the comminuted seeds and the expressed kernels can readily be explained by the difference in the two products consequent by the method employed. The heptane extract was not only that of the kernels but that of the seed coats as well. A comparison of the yield of the heptane extract of the seeds with that of the expressed oil from the kernels reveals clearly that the expression was far from quantitative.

The Oleoresin of the Cones.—When the oleoresin of Digger's pine is referred to, that of the wood is generally implied. This has received attention on the part of several investigators. Another oleoresin, quite different in appearance, is that which oozes from the tips of the scales of the cones. It is sulphur-yellow, clear and transparent, when fresh, but upon prolonged exposure it loses its transparency and softness and becomes more or less brittle.

From ten cones 77.6 Gm. of oleoresin were collected, averaging 7.6 Gm. per cone. Inasmuch as the average weight of a cone is 610 Gm., it becomes apparent that slightly more than 1 percent of oleoresin was thus obtained. Presumably a larger amount could be obtained by extraction with the proper solvent.

The saponification value was determined according to the U. S. P. (pp. 535 and 536), the acid value by the indirect method, according to the same standard (p. 131).

Sap. No. 152.9 and 154.5. Acid No. 147.0 and 147.0.

NOTE.—The distillation of a number of fresh cones several years ago yielded but a few Cc. of a volatile oil which thickened before it could be investigated.

A NEW DIGESTANT.*

BY W. A. KONANTZ.

A great deal of criticism has been brought against many of the National Formulary and commercial galenicals intended as digestants, on the ground that they are unscientific, and can possibly have no value apart from that which may be ascribed to purely psychological influences. It is, indeed, remarkable how little consideration has been given, in formulating these preparations, to the fundamental physiologic facts relating to digestion and digestive ferments, or to the properties and incompatibilities of the substances combined. Of the nineteen digestants in the National Formulary, twelve are absolutely ineligible in the light of these facts, three are of doubtful utility, and the remaining four, while free from other serious objection, are so limited in their scope and so feeble in their power that, from the standpoint of practical therapeutics, they are useful

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916.

only as vehicles. Of the commercial preparations, as a whole, it may be said that they are inferior to the official, even as vehicles. It would seem, therefore, that there is need of a new digestant which will be at least compatible within itself and of such strength as to have real therapeutic value.

In order to understand what should, as well as what should not, enter into this class of preparations, and also what they can be reasonably expected to accomplish, one must at the outset take into consideration four all-important things: First, the nature of the materials which are taken into the body as foodstuffs; second, the processes by which the body normally takes care of these materials; third, the pathological conditions which may cause these processes to vary or to cease completely; and fourth, the nature of the substances which can be used to overcome these conditions. In a paper of this length it is obviously impossible to go deeply into the chemistry of foods, or to say much concerning the physiology and pathology of the digestive system, important as a knowledge of these things is for our purpose, and therefore only the more important facts, and such as are necessary to an understanding of what is to be said later, can be touched upon in the paragraphs which follow. We may begin with the different kinds of foodstuffs.

As is well known, the essential constituents of all organic foodstuffs belong to three classes of chemical compounds; namely, the proteins, the carbohydrates, and the fats. Of these the proteins are by far the most important, since they are the only organic foodstuffs which are indispensable to the body, and which can not be replaced by any other nutrient material. They are found in all animal and vegetable tissue, and they are therefore never absent from any animal or vegetable food. The various kinds of proteins which occur in the different animal and vegetable tissues, such as albumen, myosin, casein, gluten, legumen, etc., differ greatly in many of their physical and chemical properties, but they all are alike in containing the same five elements, carbon, hydrogen, oxygen, nitrogen and sulphur; in never occurring in true solution, but in one of two forms, either colloidal or coagulated; and also in a certain agreement in their products of decomposition. It would seem that the different proteins are composed of the same proximate principles combined in varying proportions. The change from the colloidal to the coagulated form may be brought about by heat, varying with the different proteids from 55° to 57° C., and in some cases by alcohol or mineral acids. On decomposition by the putrefactive organisms, the proteins yield a large number of substances, among which are hydrogen sulphide, ammonia, ptomaines, and various amino acids; on hydrolysis with chemical reagents or the digestive ferments, they give first various highly complex products, called albumoses, proteoses, and peptones, and finally a great number of simpler compounds such as the amino acids. These decompositions are of the greatest importance in digestion, since by means of them alone can the huge protein molecule be rendered soluble, diffusible, and assimilable by the body. It will be seen that the digestion of the proteins is of prime importance to the body, of more importance indeed than that of the carbohydrates and fats, which we must consider next.

The carbohydrates and the fats offer a contrast to the proteins in being free from nitrogen and sulphur, both containing the same three elements, carbon, hydrogen, and oxygen, although their quantitative composition is quite differ-

ent, the fats being much poorer in oxygen, and richer in carbon and hydrogen. They are not so essential to life as are the proteins, and the problem of their digestion is correspondingly less important. They do not seem to be capable of replacing the exhausted constituents of the body, and their main service is undoubtedly in furnishing the body with heat and energy.

The most important carbohydrates, so far as their use in the body is concerned, are the starches, the gums, and the sugars, which differ greatly in their physical properties but have a close chemical relation as is indicated by the nature of their decomposition products. On hydrolysis, all the higher carbohydrates are ultimately converted into the lower ones, the simple sugars, which alone are assimilable by the body. On putrefaction or fermentation, they undergo various decompositions, depending on the nature of the organism present—thus we have the lactic acid fermentation, butyric acid fermentation, alcoholic fermentation, etc. Decompositions of the first kind take place during the normal processes of digestion, while those of the second kind frequently occur during abnormal conditions, and give rise to some common pathological disturbances.

Compared with the proteins and carbohydrates, the fats are simple bodies; they are mostly mixtures of the esters of certain higher fatty acids with glycerin, and they readily decompose into these constituent parts when hydrolyzed. When the hydrolysis is effected by alkalies, the fatty acids which are freed combine with the bases to form soaps, and these soaps have the power to emulsify large quantities of the same or other fat. This fact is of great importance in digestion, since it appears that the fats can be absorbed into the body only after conversion into such soaps or emulsified fats.

From what has already been said, it can be readily seen that nearly all the organic foodstuffs are insoluble in water. Fats, as we all know, are not miscible with water, the proteins only swell without actually dissolving in it, and, of the carbohydrates, the sugars alone are soluble. On being introduced into the alimentary canal, the foodstuffs, although surrounded by the body, are still outside of what is called the body proper. To get from the digestive tract into the body proper, the foodstuffs must pass through the mucous membrane lining of these organs and also the walls of blood or lymph vessels. Only liquids can make this passage, so it is necessary to reduce to the liquid state all foodstuffs not already in that condition. This reduction to the liquid state constitutes the digestive processes, and is effected in the body by five secretions; namely, the salivary juice, the gastric juice, the pancreatic juice, the intestinal juice, and the bile. In this process water is the solvent, and certain chemical agents convert the insoluble nutrients into substances that are soluble in water.

The first of these secretions to act upon the foodstuffs is the salivary juice, a transparent and somewhat slimy liquid of slightly alkaline reaction. It consists chiefly of water (about 99 percent), holding in solution certain salts, mucin, and an enzyme called ptyalin, which has the power to convert starch into dextrin and sugar. Approximately 1500 Cc. of saliva are normally secreted in the course of 24 hours, and this secretion might therefore be expected to play an important part in the chemical processes of digestion, but it has not yet been found that it does so. The saliva has no effect on most articles of diet; starch alone is converted into dextrin and sugar, and even this action is very inconsiderable, almost noth-

ing when compared with the similar action of the pancreatic juice or of diastase. This is because the period during which the ptyalin can act is of very short duration. Its action on starch takes place only in the faintly alkaline reaction which belongs to the normal saliva, and its action is immediately enfeebled or entirely neutralized when it reaches the acid gastric juice. Thus only a small portion of the starch consumed is split up by the salivary juice. The chief value of the salivary juice is undoubtedly in the amount of water which it furnishes, and which is utilized, first, to lubricate the foods and prevent their irritation of the mucous membranes, and secondly, as the digestive solvent for the foods as they become soluble.

The next secretion to act upon the foodstuffs is the gastric juice, and with it begins the definite work of dissolving those foods which are insoluble in water. It is distinguished from all the other digestive fluids by its acid reaction, which is due to the presence of 0.2–0.4 percent of hydrochloric acid. In addition to this it contains certain salts and three enzymes, pepsin, rennin, and a lipase. The chief substances digested by the gastric juice are the proteins, which are converted by the pepsin into proteoses and peptones—substances which, unlike the proteins, are neither colloidal nor coagulable, are more easily diffusible through animal membranes, and therefore better suited for absorption into the blood. This action of pepsin can occur only in an acid medium, a condition which is supplied by the hydrochloric acid. The characteristic action of rennin is the coagulation of colloidal protein, like the albumen of milk, which is then acted upon by the pepsin and hydrochloric acid in the same manner as the other proteins. The protein membranes which surround the fat cells of certain foods are also dissolved by the pepsin, setting free the fat, which is attacked by the lipase, and split into its constituent fatty acids and glycerin. How large a portion of the fat, however, is thus broken up in the stomach cannot be stated, but it is probably a very small amount, for the decomposition of fats, at least in experiments on artificial digestion, goes on very slowly. Nevertheless, as will be shown later, it is quite sufficient if only a minute part of the fats is thus split up.

We have just said that hydrochloric acid is necessary for the action of pepsin, but this is not its only significance. Recent researches indicate that one of its important functions is the killing of microörganisms which reach the stomach with the food, and which would otherwise set up processes of decomposition in the alimentary canal, and thus destroy a part of the food before its absorption, while the products of decomposition would produce disagreeable symptoms and even disease. The mineral acids have antiseptic power even in such dilution as that of the hydrochloric acid of the gastric juice. Boer found that hydrochloric acid in the proportion of 0.15 percent effectually restrained the growth of all bacteria with which he experimented, and that most forms were impeded by as small amounts as one part in two thousand of this acid. Besides these functions, it has been fairly well established that cane sugar and maltose (double sugars) are converted by the hydrochloric acid into glucose and levulose (simple sugars); that the muscular activity of the stomach, so important in mechanically disintegrating the foodstuffs and mixing them with the digestive juice, is largely governed by the relative acidity on the two sides of the pylorus; and that the stimulation of pancreatic secretion, with its important digestive ferments, is a hormone formed

by the action of the hydrochloric acid on duodenal epithelium. In the opinion of the writer, the treatment which the foodstuffs receive in the gastric juice is the most important to which they are subjected, for if the stomach fails to produce in its contents the general characteristics of chyme there will be driven out into the duodenum a mass of semi-digested or fermenting material unfit for intestinal digestion, thereby disordering the functions of these parts and all the others which follow.

The pancreatic juice, by which the foods are next acted upon, is a sort of "finisher." It acts with vigor upon all the three main groups of foodstuffs, completing the reactions begun by the salivary and gastric juices. It converts the starch into maltose, completing the work begun by the saliva. This action is due to the presence of an enzyme, amylopsin, which is similar to ptyalin but is more vigorous. It changes proteins into proteoses and peptones, completing the work begun by the gastric juice. This is accomplished by another enzyme, trypsin, which is similar to, but more active, than pepsin. It decomposes the fats into their constituent parts, and in this work the active agent is the enzyme steapsin. There is also present an enzyme similar to the rennin of the gastric juice. Perhaps the most notable feature of the pancreatic juice is its alkaline reaction, which is due to sodium carbonate. The sodium carbonate has three functions: first, it furnishes the alkaline medium which is necessary for the action of the pancreatic enzymes just mentioned; second, it neutralizes the hydrochloric acid of the gastric juice; and third, it neutralizes the fatty acids set free from the fats by the lipase and the steapsin, and thereby forms soaps, which serve to emulsify the rest of the fats by surrounding their globules with such a coating that they are unable to unite into large masses, and become thereby capable of being absorbed through the walls of the intestines. It was said in a preceding paragraph that only a small quantity of the fats is probably split up into free fatty acids and glycerin by the lipase or the steapsin, and that this small quantity is quite sufficient. This is true because the whole amount of fat is thereby rendered capable of being converted into a fine emulsion, in which form it is assimilable. It must not be forgotten that some free fatty acid, however small in amount, is necessary for this saponification with sodium carbonate, since neutral fats can be saponified only by free alkalies. The carbonates of the alkalies have no action on the neutral fats but only on the free fatty acids, and the sodium carbonate is therefore unable to decompose the fat-molecule, or to form a soap, until some fatty acid has been set free by the ferments, nor will it emulsify the fat if no fatty acid is present, but a fine emulsion is produced after the decomposition. The presence of free fatty acid and sodium carbonate is therefore the most essential condition in the digestion of the fats.

The remaining two digestive fluids, the intestinal juice and the bile, seem to act chiefly as aids to the pancreatic juice; neither contains any enzymes of importance in digestion. The chief constituent of the intestinal juice is sodium carbonate, and its function is probably to aid in neutralizing the hydrochloric acid and in emulsifying the fats. The bile also plays an important rôle in the digestion and absorption of fats by acting as a solvent of the fatty acids and soaps, and therefore as a carrier of them into the mucous membranes.

Having now considered the normal processes of digestion, it is equally important for our purpose to know something of the pathological conditions which

may cause these processes to vary or to cease, for digestants are used, of course, not when the functions are normal, but when they are abnormal. With regard to cause, we may say that digestive disturbances are of two kinds: those which have their causes directly in the alimentary tract, and those which have their causes in other parts of the body, the digestive system simply being involved in a more or less general decline of bodily functions. Disturbances of the first kind are due chiefly to a neglect of hygienic measures, as the eating of improper foods or improperly prepared foods, irregularity in eating, overeating, incomplete mastication, and so on; but they may be due to acute or chronic gastritis, or even to organic changes in the abdominal viscera, as in carcinoma and ulcer. The second kind of disturbances occur during short or prolonged fevers, during infectious diseases, in chronic maladies, as anemia, chlorosis, diabetes, tuberculosis, and in fact whenever the system in general is involved; they are due to the impoverishment of the blood, and in consequence the secretions of the glands are diminished, and the motility of the muscles concerned with peristalsis enfeebled. In either case we have much the same conditions to deal with: deficient secretion of digestive enzymes; hypoacidity, or deficient acidity of the gastric juice; hyperacidity, or excessive acidity of the gastric juice (which forms one variety of acid stomach); atony of the muscles of peristalsis; ferment action, or rather putrefaction, of the foods, with formation of lactic acid, butyric acid, and other effete products; flatulence, caused by this fermentation and the liberation of gas; hypersecretion of mucus; and irritation of the walls of the alimentary canal, due to the presence of undigested or indigestible food.

It should be noted that digestive disturbances are nearly always symptoms, not diseases; their treatment must therefore be chiefly symptomatic. However, to secure any permanent relief the underlying causes must of course be removed. If they are due to neglect of hygienic measures, then a strict diet must be instituted and rigidly enforced; if they are due to diseases then these diseases must be given treatment. In any case, the writer believes that the proper use of a digestant will always be as an adjunct—but a necessary adjunct—to some other treatment calculated to remove the causes of the digestive failure, and that the sole objects of a digestant are to replace temporarily, digestive ferments that are lacking, to render the alimentary tract aseptic, to counteract disagreeable symptoms, and so far as possible to restore normal conditions in the digestive system. If a digestant does these things, it has done all that can reasonably be expected of it.

The substances which are most widely used for the accomplishment of these objects are the following, which have been listed according to their chief action:

Digestive Ferments: Pepsin, pancreatin, diastase.

Acids: Hydrochloric, phosphoric, lactic.

Antacids: Sodium bicarbonate, magnesia, lime-water.

Bitters: Strychnine, quinine, gentian, quassia.

Carminatives: Volatile oils, spices, asafœtida.

Antiseptics, (*a*) gastric: Creosote, resorcinol, sodium phenolsulphonate; (*b*) intestinal: betanaphthol, salol, aspirin.

Protectives: Insoluble bismuth salts, wood charcoal.

Demulcents: Mucilages (acacia, elm, linseed, althæa, etc.), glycerin.

Of these substances, the most useful, and the one most likely to do good, is

undoubtedly hydrochloric acid. The numerous functions which it performs in the normal processes of digestion have already been mentioned. In hypoacidity it is invaluable for supplying the acid which is so necessary for the activation of the peptic glands, for the stimulation of the gastro-intestinal muscles, and for the prevention of fermentation. In hyperacidity the excessive secretion may be prevented by its administration, on the rule that acids check acid secretions; or, if the excessive acidity is due to the formation of butyric, lactic and other organic acids from the foods by fermentation, it will by reason of its powerful antiseptic influence effectually overcome this condition. As an antiseptic, hydrochloric acid is decidedly superior to the phenolic compounds which are so often given for this purpose, and which tend to derange the system by inhibiting its ferments. It should be noted here that the method of treating hyperacidity of the second type, based upon the administration of hydrochloric acid, creosote, or other antiseptics, is not for the purpose of removing the acids, but to stop fermentation. The objection to the method of treatment with alkalies, like sodium bicarbonate and magnesia, is that, while they neutralize the acids, they do not prevent the fermentation, and if given during the process of digestion they interfere with it, by neutralizing also the normal acidity of the stomach. Medical writers, on the whole, are agreed that most cases of digestive failure, from whatever causes, are benefited by the administration of hydrochloric acid, perhaps the only exception being where there is much gastric inflammation, and even here it is extremely doubtful whether in the quantity and dilution in which it is ordinarily given hydrochloric acid is at all irritant.

Certain other acids, such as phosphoric and lactic, are occasionally substituted for hydrochloric acid, but without sufficient reason. They certainly cannot perform the functions of the hydrochloric acid in digestion. Phosphoric acid is a normal constituent of the gastric juice in the form of acid phosphates; lactic acid is found only when there is putrefaction of the carbohydrates, and is extremely irritant to mucous membranes. It is therefore the more objectionable of the two.

In those cases of digestive failure which are due to a lack of digestive ferments, practically the only available remedies are pepsin, pancreatin, and diastase. These are not the pure isolated enzymes, but more or less impure mixtures of several enzymes with other albuminous bodies. Pepsin is usually made by the autodigestion of the mucous membrane of the hog's stomach, and the separation of the pepsin by the process of salting out. The United States Pharmacopoeia requires that standard pepsin shall be able to digest not less than three thousand times its own weight of coagulated egg albumin in two and one-half hours at a temperature of 52° C., but much stronger pepsins are prepared commercially. Pepsin regularly contains some rennin, and its solution will therefore coagulate milk. It has no action on the fats or carbohydrates. Pancreatin is made from the pancreas of the hog in much the same way that pepsin is extracted from the stomach; it is essentially a mixture of the specific ferments found in the pancreatic juice. The United States Pharmacopoeia requires that standard pancreatin shall be able to digest at least twenty-five times its own weight of boiled starch in five minutes at a temperature of 40.5° C. Pancreatin should also act on the proteins and fats. Diastase is obtained from infusions of malt (barley, oats, wheat, potato, etc.) by precipitation with alcohol; one part should convert two

thousand parts of starch into dextrin and maltose. It also contains a second ferment, known as peptase, which is capable of changing proteins into peptones.

It will be seen that these preparations are highly powerful substances, and it might be expected that they would be of great value in replacing digestive ferments lacking in the human body, but their utility is greatly lessened by the fact that they are delicate bodies whose activity is destroyed by the presence of many other substances. Thus, the digestive power of pepsin is destroyed or impaired by strong acids (over 0.5 percent), by alkalies, by alcohol (over 10 percent), by the soluble salts of many heavy metals, and by gallic or tannic acid, while pancreatin is rendered inert by more than traces of acids or alkalies. In solution these two are mutually incompatible, the pepsin destroying the pancreatin if the solution be acid and the pancreatin destroying the pepsin if the solution be neutral or alkaline. Diastase, on the other hand, will act in either a neutral or a feebly acid solution, although the latter is preferable. At one time it was thought that lactic acid increased the activity of diastase, but it has recently been shown that it has a retarding effect; however, the acid phosphates seem to exert a beneficial influence.

The problem in the case of digestive ferments is chiefly whether to administer pepsin (and hydrochloric acid) or pancreatin (and sodium bicarbonate). Both kinds of solution are largely used, as well as some which are supposed to contain both ferments. These latter are impossible combinations for the reasons already given. The examination of several such preparations by the chemists of the *Council of Chemistry and Pharmacy* of the *American Medical Association* has shown them to be inert, or to have only a weak action of the ferment that happens to be in excess. With regard to the use of pancreatin, it must be borne in mind that it is not active in the presence of free acid, and in the normal gastric juice is not only incapable of affecting digestion but will itself be digested. If used, it must therefore be given enterically, which is inconvenient, or combined with sodium bicarbonate, which is objectionable because the normal acidity of the stomach will be neutralized and digestion retarded instead of promoted. Moreover, the value of pancreatin as a digestant of proteins and fats is practically nil, while its amyloptic power, only 1 to 25, is exceedingly low. It is therefore greatly inferior to pepsin and diastase, which have also the advantage of acting in feebly acid solutions. The most important use of pancreatin is perhaps in making the so-called "predigested" or "peptonized" foods. With milk it is superior to pepsin for this purpose, since the rennin in the latter causes coagulation. As an internal digestant, however, pancreatin has little value, and a combination of pepsin and diastase is much more likely to do good.

Some medical writers contend that pepsin, pancreatin, and diastase are superfluous remedies, because, as they say, the digestive glands rarely fail to secrete their specific ferments. An analogous argument would be that serums are superfluous remedies because the body is capable of forming its own antitoxins. In both cases, the object is to relieve the body, already weakened, from the necessity of manufacturing these agents, to introduce them into the system without delay, and to fortify those that may naturally be present. The statement that the continued use of artificial digestants establishes a habit and a consequent weakening of the natural power to secrete digestive ferments is without foundation; on the other hand, there is evidence that they act as stimulants to the secretory

glands and promote their functional activity. Pepsin, pancreatin and diastase do good by increasing the number of digestive ferments, thereby increasing the rate and completeness of digestion. This is in accordance with the law of proportionality, which states that when the amount of substance to be acted upon is large in proportion to the quantity of enzyme, then the amount of the reaction is proportionate to the quantity of enzyme present. For example, if we take two solutions of 300 Cc. each, containing 3 percent of boiled-starch solution, and add to one 0.5 Cc. of malt extract and to the other 2 Cc. of malt extract, the greater amount of reaction will take place in the solution to which the larger quantity of malt extract was added. In like manner, the introduction of additional enzymes into the digestive system will increase the rate and completeness of digestion and relieve the system of its load. The artificial ferments are also good demulcents, capable of exerting a soothing influence upon irritated mucous membranes.

For the purpose of overcoming gastro-intestinal irritation the mucilages are the most effective; they are unsuited, however, to incorporation into digestant mixtures. They are usually given in acute cases only, and then in large doses. Certain insoluble substances are also frequently used, like wood-charcoal and the salts of bismuth. These, being heavy and insoluble, gradually spread themselves over the gastro-intestinal mucous membrane, and mechanically protect it against the action of irritant substances in much the same way that paint protects a house against the effects of the weather. The objection to these substances is that they interfere to some extent with digestion, and if used over a considerable period of time, are likely to form concretions or balls which plug the ileo-caecal valve, and otherwise give trouble. For continued use, in combination with other substances, glycerin and syrup are perhaps the most satisfactory.

Those substances which are commonly called "bitters" and which are used to stimulate the appetite, would seem to be contraindicated in digestants because of the possibility that they may cause active gastro-intestinal irritation, or aggravate such a condition if already present. In those cases which are characterized by loss of appetite without special disturbance of the digestive apparatus or in general tonics, they are undoubtedly of value, but when the digestive system is already loaded with more food than it can properly handle, or is in a depressed condition, it is certainly not advisable to increase the load by establishing a false appetite. Perhaps the least irritant of the bitters is strychnine, and it has a decided advantage over the other bitters in its effect upon the muscular movements of the stomach and intestines because it stimulates peristalsis. It is therefore especially valuable in atonic conditions.

Closely allied to the bitters are the so-called aromatics, which depend for their activity upon the presence of a volatile oil. They differ from the bitters in being more powerful but less permanent in their effects, and in exerting their influence in the intestinal canal as well as in the stomach. They are largely used to expel flatus by exciting intestinal peristalsis, for which purpose they are unexcelled. They are also especially useful in disguising the taste of bitter substances, and in covering many other unpleasant flavors. If used in too large doses they are capable of setting up local irritation.

The principal facts relating to digestants have now been given, and upon these

facts the writer has based the formula of a new digestant, which it is thought avoids the incompatibilities to be found in most other preparations of this kind without sacrificing scope or strength. The proposed formula and directions are as follows:

Pepsin	40 Gm.
Diastase	40 Gm.
Diluted Hydrochloric Acid	50 mils
Sodium Phosphate	8.25 Gm.
Purified Oleic Acid	30 mils
Alcohol	50 mils
Strychnine	0.175 Gm.
Oil of Bitter Almond	3.750 mils
Tincture of Cudbear	60 mils
Kaolin	15 Gm.
Syrup, sufficient to make	1000 mils

Dissolve the sodium phosphate in the diluted hydrochloric acid, and mix the solution with 725 mils of syrup. In this dissolve the pepsin and diastase, triturate with the kaolin, and filter. Then dissolve the strychnine sulphate in about 25 mils of syrup, and the purified oleic acid and oil of bitter almond in the alcohol. Add these solutions to the filtrate from the first solution. Finally, add the tincture of cudbear, filter, and add syrup sufficient to make 1000 mils.

The use of oleic acid and sodium phosphate in digestant mixtures is new and needs explanation. In the paragraphs on the fats it was shown that free fatty acid is essential to the digestion of the fats. If we take a little neutral fat or oil (that is, one which contains no free fatty acid) and shake it with a solution of sodium carbonate no emulsion will result, but if we now add a drop of a fatty acid like oleic acid, and shake again a fine emulsion forms at once. This is due to the formation of a soap through the interaction of the sodium carbonate with the free fatty acid, and this soap acts as the emulsifying agent. A similar process of emulsification occurs naturally in the digestion of the fats, and is likewise dependent on the presence of free fatty acids. The necessary fatty acid may be liberated from the fats by the organisms of putrefaction or by the lipases of the digestive tract, or it may be added as is done in this preparation. As soon as the fats and fatty acids reach the alkaline intestinal juice the latter will be converted into soap, and the former into an emulsion. It seems reasonable to believe that free fatty acids, administered in small quantities, will aid the digestion of the fats, and it is upon this conviction that the writer has incorporated oleic acid in the above formula.

The sodium phosphate has been added chiefly for two reasons: The first is that diastase seems to act best in a medium containing acid phosphates. The second is that sodium phosphate can combine with free fatty acids to form soaps. It therefore acts in this preparation as an auxiliary to the diastase and to some extent as a substitute for the sodium carbonate of the intestinal canal.

The presence of alcohol in this preparation may seem objectionable to some. The alcoholic content is, however, only about 5 percent by volume, and this amount is necessary to hold the oleic acid and oil of bitter almond in solution. The writer does not believe that this amount is really objectionable, since it has been conclusively shown by numerous investigators that alcohol in amounts less

than 10 percent has no deleterious effect on the processes of digestion. On the contrary, small amounts of alcohol seem to stimulate the secretion of the salivary and gastric glands, and perhaps of the digestive ferments in the intestines. However, the small amount of alcohol which will be taken in each dose of this preparation may be regarded as negligible.

The concentration of the hydrochloric acid has been fixed at 0.5 percent. This is perhaps the maximum amount that can be used without injury to the pepsin and diastase, and which still gives a fair dose of the acid. Strychnine sulphate has been added for its well-known tonic effects on muscles and glands. The oil of bitter almond has been chosen as the flavor, for it seems to cover the acid taste best. Kaolin is indicated as the clarifying agent, since digestants made with it seem for some reason to be more permanent than those made with talc.

The dose of this preparation is intended to be for an adult two fluidrachms. In such a dose the patient will receive five grains each of pepsin and diastase, six and a half minims of diluted hydrochloric acid, four minims of oleic acid, one grain of sodium phosphate, and one one-hundredth of a grain of strychnine sulphate. This dosage has been arrived at after considerable study, and it is believed that it will give the maximum of therapeutic value. If thought too large it can be easily reduced by giving one fluidrachm, or even less. Some writers, however, recommend even much larger doses—thirty grains each of pepsin and diastase, and thirty minims of diluted hydrochloric acid—but there are cases on record where such doses, taken over a considerable period of time, have resulted in serious conditions.

In manufacturing this preparation, only ingredients of known strength should be used, and if there is any doubt they should be standardized before they are used. In this way alone can a uniform and efficient preparation be obtained. Pepsin and diastase having a power, respectively, of 1 : 3000 and 1 : 2000 are best. The diluted hydrochloric acid must be exactly 10 percent by weight. Purified oleic acid should be used, not the oleic acid of the Pharmacopoeia, as the latter is not intended for internal use, and has an unpleasant odor and taste. The purified oleic acid should be odorless and tasteless. In order to prevent any possible oxidation of the oleic acid, and also to protect the other ingredients of the mixture, it is recommended that the bottles be sealed—this can be easily done by dipping in melted paraffin. The finished preparation should be a perfectly clear solution of a cherry-red color and a cherry flavor.

GLYCERIN AS AN ANTISEPTIC.

Glycerin has recently been proved to be a most admirable sterilizing agent, particularly suited for rendering surgical instruments absolutely aseptic. Tests have been made with the bacilli of tuberculosis. When heated in glycerin at a temperature of 120° C., these germs are invariably killed at the end of one minute. The germs that are killed in this way are those of diphtheria, anthrax, and chicken cholera, as well as *Bacillus coli, B. paratyphosus, B. pyocyaneus, B. subtilis, Staphylococcus albus,* and *Streptococcus brevis.* Surgical instruments are uninjured by the treatment, while rubber tubes remain not only uninjured, but are even restored to elasticity when they have become somewhat brittle.—*Brit. Journ. Dent. Surg.*, November 15, 1916, 686; through *Pharmaceutical Journal.*

CONTRIBUTED AND SELECTED

THE METRIC SYSTEM IN EVERY-DAY LIFE.*

BY H. V. ARNY, PH.D.

There seems but little that I can add to the admirable addresses delivered by the distinguished men who have just presented their views. In fact, all I can do is to present a simple story of my own experiences with that beautiful, logical and simple system of weights and measures now used by 437,000,000 of the people of this globe.

In school, as a twelve-year-old youngster, along with other monstrosities, such as cube root, proportions involving the wildly exciting facts that if 10 men in 7 days could excavate a ditch 1,000 feet long; then 3 men in 12 days could excavate X feet of trenches, I learned that there was a foreign thing called the metric system; that it dealt with "decis" and "centis" and "kilos" and "millis" and "dekas;" that the thing they called the kilogramme represented 2.2046 pounds; that the kilometer was 0.6213 mile. These data passed through the mind of the lad and along with cube root were shortly consigned by him to the limbo of uninteresting and unnecessary things.

Later, as a pharmaceutical apprentice, I learned that this self-same metric system was used by the French physicians of the neighborhood in writing their prescriptions and there then came the first intimation that metric weights were of some practical use. Later, in college, all pharmaceutical preparations were prepared by metric units and a month of use of such weights and measures brought a realization that their decimal sub-divisions make them as superior to the ordinary units of weights and measures as dollars and cents are easier to calculate than are pounds, shillings and pence.

Later, four years' residence in Germany, completed my metric conversion. In truth it might be stated that the first week did the work, since any one accustomed to our decimal system of currency finds that *thinking* in the metric system is merely a matter of *using* the units. In using the meter, one learns that it approximates the yard; in using the kilogramme, the novice instinctively thinks of two pounds; in discussing distance in kilometers, one quickly comes to the realization that the unit measures about $^5/_8$ of a mile. And after a few weeks of such mental translating, one drops all thought of old units and thinks of quantities exclusively in kilos and meters.

Despite assertions to the contrary, I found in Germany barely twenty-five years after the official adoption by that country of the metric system that all purchases I made were on the basis of the metric system. It is true that in the market places the peasants talk of "pfunds" (pounds) but it is equally true that their "pfund" is the official half-kilo weight. Nor do we have to cross the ocean to find such anachronisms. In certain sections of this land, we hear the silver quarter called the shilling; in other parts of the land it is called "two-bits," while it is an undeniable fact that in one city the five cent piece is still called to a cer-

* Presented at Metric Conference held in New York City December 27, 1916.

tain extent "the picayune," after a Spanish coin of $6^1/_4$ cents value, that was used in that section a century ago. Nor do I believe that these colloquialisms prove the failure of our decimal system of currency.

The only justifications for the adoption of the metric units as the official standard of this country are (*a*) The development of our foreign trade demands the change. (*b*) The saving of time brought about by the use of the metric system would repay the annoyance incidental upon the change.

The first proviso has been emphatically answered in the affirmative by the speakers who have preceded me; but I can add some testimony as to the time-saving properties of the system. As to this there has been a number of extravagant statements made by metric enthusiasts, but figures founded on experimental work have been rare. Accordingly, a comparative test of the same problems expressed in U. S. and metric units was made on third-year University students by having them solve the following commercial problems:

PROBLEMS BASED ON METRIC UNITS.

1—Cost of 22 tubes of tooth paste at $1.45 a "dizaine" (package of 10).

2—Cost of 2.26 kilos of quinine sulphate at 4.7 cents a gramme.

3—Cost of 27 kilos of coal at $7.70 a metric ton (1000 kilos).

4—Cost of 1.7 meters of cloth at 26 cents a meter.

5—Cost of 7.27 liters of glycerin (Sp. Gr. 1.25) at 44 cents a kilo.

6—Cost of 5 liters of sulphuric acid (Sp. Gr. 1.84) at 22 cents a kilo.

7—A gold dollar contains 1.67 Gm. gold. How many cubic meters of gold (Sp. Gr. 19) would represent eight billion dollars?

PROBLEMS BASED ON ORDINARY (U. S.) UNITS.

1—Cost of 22 tubes of tooth paste at $1.75 a dozen.

2—Cost of 5 lbs. (Avoirdupois) of quinine at $1.45 an avoirdupois ounce.

3—Cost of 59 lbs. of coal at $7.00 a ton.

4—Cost of 70 inches of cloth at 24 cents a yard.

5—Cost of two gallons of glycerin (Sp. Gr. 1.25) at 20 cents an avoirdupois pound.

6—Cost of $1^3/_8$ gallons sulphuric acid (Sp. Gr. 1.84) at 10 cents an avoirdupois pound.

7—A gold dollar weighs 25.8 grains. How many cubic feet of gold (Sp. Gr. 19) would represent eight billion dollars?

In order to eliminate the problem of fatigue half of the students were given the metric; the other half were given the U. S. problems first.

As to the problems themselves, the first four are ordinary transactions of retail trade. All eight of these (U. S. and metric) could be calculated within three minutes and while metric units showed an advantage, it was so slight that the difference could be expressed only in seconds. The next two of each set involve practical problems of the chemical industry where liquids bought by the pound are frequently dispensed in gallons. The last problem is taken from the *Outlook* of November 16, 1916, where the author of an article published in a previous issue apologized for an error made in calculating the cubical capacity of eight billion dollars claimed to represent the gold coin of the world. He acknowledged that while his article stated that eight billion dollars represented a cube of gold 70 feet on each side, the real figures were a cube of 29 feet, or 25,641 cubic feet.

If a distinguished financial publicist could make such an error, I was anxious to see what a class of students could do with it in both systems. The figures below show that the honors were even, although it is only fair to say that in the metric problem two were ruled out because of the improper placing of the decimal point.

The results of the experiments are tabulated below:

RESULTS OF THE TEST ON GROUP I.

Student.	Metric. Time	Metric. Correct out of 6.	U. S. measures. Time.	U. S. measures. Correct out of 6.
A.....	15 minutes	5	21 minutes	4
B.....	13 minutes	3	18 minutes	4
C.....	11 minutes	6	18 minutes	5
D.....	15 minutes	1	14 minutes	3
E.....	18 minutes	2	13 minutes	3
F.....	10 minutes	4	23 minutes	5
G.....	8 minutes	8	16 minutes	5
H.....	8 minutes	4	10 minutes	3
I.....	12 minutes	6	22 minutes	4
J.....	7 minutes	3	16 minutes	3
K.....	8 minutes	6	13 minutes	6
L.....	9 minutes	4	18 minutes	3
M.....	24 minutes	4	12 minutes	1
N.....	13 minutes	3	13 minutes	3
	171	68 percent	227	62 percent

RESULTS OF THE TEST ON GROUP II.

Student.	Metric. Time.	Metric. Correct out of 7.	U. S. measures. Time.	U. S. measures. Correct out of 7.
A.....	19 minutes	5	42 minutes	6
B.....	30 minutes	4	36 minutes	5
C.....	25 minutes	4	39 minutes	5
D.....	19 minutes	5	26 minutes	4
E.....	23 minutes	5	28 minutes	5
F.....	21 minutes	6	47 minutes	4
G.....	26 minutes	6	33 minutes	2
H.....	24 minutes	2	42 minutes	1
I.....	30 minutes	5	37 minutes	5
J.....	22 minutes	7	27 minutes	6
K.....	20 minutes	4	54 minutes	3
L.....	14 minutes	7	27 minutes	5
M.....	28 minutes	3	30 minutes	5
N.....	15 minutes	6	35 minutes	7
O.....	22 minutes	6	37 minutes	4
P.....	22 minutes	6	39 minutes	6
	360	72 percent	579	65 percent

The figures just given show that one class of third-year University students did the first six problems in U. S. units in 227 minutes, the similar metric problems took only 171 minutes; that while a second group did all seven problems in U. S. units in 579 minutes, they took only 360 minutes to do the same problems in metric units. It will also be noticed that the percentage of correct problems in the metric system is somewhat higher than those done with U. S. units; hence the metric system is not only a tremendous time-saver, but it gives in the hands of the average student more accurate results.

Enough, I think, has been said about the advantages of the metric system.

Our presence here to-day attests to our belief that we should in due course of time become a metric country. And now that we have come together, what are we going to do? It would be the worst of blunders if we, representing such diversified occupations, should not, before we separate, form a permanent organization aimed to disseminate the metric gospel among the commercial bodies until they too agree with us that it is high time for this country of ours to throw off the shackles of an Elizabethan set of standards and add our 110,000,000 people to the 437,000,000 already using the metric system.

COMPARISON OF MEDICINAL MINERAL OILS—RUSSIAN AND AMERICAN.

BY W. F. ODOM AND W. W. DAVIES.

It has been heralded widely in the magazine articles, newspaper advertisements, and other literature of the day that Liquid Paraffin, whether it be a Russian or an American Oil, finds its value as a medicinal agent in its chemical inertness —because it acts merely as a lubricant of the intestinal tract. This point seems to be conceded by all those European scientists who have devoted their time and energy toward research work on this subject, and it is now the only idea fostered by those interested in Liquid Paraffin in this country.

With this in mind, then, we will endeavor to show that the Russian Oil, for clinical, chemical, and physical reasons, is better than the American Oil now found on the market.

CLINICAL OBSERVATIONS.

It is a well-known fact that the European physicians and scientists were the first to prescribe and recommend Liquid Paraffin. After experimenting with the Russian Oil, Sir W. Arbuthnot Lane, the English scientist whose articles are being quoted by many of the promoters of American Oil in their pamphlets and advertising matter, wrote: "The treatment, other than operative, of chronic intestinal stasis of the defective drainage scheme consists in the use of paraffin before each meal. This precedes the food in its passage along the canal and facilitates the effluent."[1] We might quote from a long list of others, among them Phillips, Ross, and Cropper, all Europeans, whose research work into the subject is being applied by many to the American Oil, whereas the data on which they based their articles were obtained from the Russian Oil. The facts of the case then tend to show that the clinical observations on which the use of Liquid Paraffin is based were made with the Russian Oil—and that it is yet to be proven that the same claims are applicable to the American Oil.

CHEMICAL COMPOSITION.

In considering the chemical composition of the two oils, we learn that the Russian Oil is composed almost wholly of naphthene hydrocarbons, which are most probably, saturated cyclic compounds of the hexamethylene type. The American Oil, on the other hand, is mainly methane hydrocarbons with some olefines. They have then totally different structural formulas and, of course, for this reason one will find them acting differently in chemical reactions. The

[1] Page 409, *Hygienic Laboratory Bulletin 98, U. S. Public Health Service.*

hydrocarbons of the hexamethylene type, such as are found in the Russian Oil, are particularly inactive and the saturated methane hydrocarbons of the American Oil are similarly inert, but the olefine series, which the American Oil contains, are reactive even in a weakly acid solution such as might be found in the digestive tract. In fact, Ross claims that the olefines of the American Oil are undesirable in an oil used for internal purposes because they enter into combination with bodies of an acid nature, or with substances in the alimentary tract—whereas, as previously stated, the value of Liquid Paraffin lies in its chemical inertness. We would conclude then that the chemical composition of the Russian Oil makes it the superior of the American Oil, because the other chemical properties of mineral oils, such as sulphur, carbonaceous, or acid impurities, depend only on the method and extent of refining.

PHYSICAL PROPERTIES.

The physical properties of a mineral oil, whether Russian or American, do not seem to bear any relation one to the other.

The "bloom" noticed on many oils is dependent again on the method and extent of refining, and now there are very few medicinal oils—Russian or American—on the market in which the "bloom" has not been eliminated.

The specific gravities may or may not be the same for the two oils. Generally speaking, however, the Russian Oil has the higher specific gravity. This property in no way determines the actual medicinal value of an oil.

The "cold test" is a simple test which a physician or druggist may use to distinguish between the true Russian and American Oils. The Russian Oil will stand a "cold test" of 0° F. or below without congealing. The American Oils, on the other hand, seldom go below 15° F.—many are solid at 20° F. or higher, and invariably are clouded before reaching the congealing point. This test in itself shows that there is a difference in the chemical composition of the two oils and is explained by Gane[2] when he says that "the higher paraffins in solution in the American Oils, as at present manufactured, are thrown out when the oil is cooled and for this reason American Oil has no cold test." In a series of tests made by one of us on widely advertised American Oil, it was found that, when the oil clouded on cooling, it was necessary to raise the temperature considerably above that at which the cloudiness appeared before the oil was again completely liquefied, thus indicating that the solid paraffins might be considered present in the form of an impurity and that the American Oil had not been refined to the fullest extent. When, in the course of the experiments, the higher paraffins which caused the cloudy appearance were removed by carefully cooling and filtering it was found that the viscosity of the remaining oil was considerably lower, this again indicating that if the oil had been refined to the same point as Russian Oil (medicinal) the difference between them would have been even more marked than is noted in the table which follows.

The value of an oil as a lubricant largely depends upon its viscosity. The engineer in selecting an oil for his engine picks out one with a high viscosity test. The thoughtful physician of to-day sees that the same thing applies to an oil chosen to lubricate a part of the human machinery, and now it is generally conceded that

[2] Jour. A. Ph. A., July, 1915, p. 792.

the high viscosity test Liquid Paraffin is the best for internal use. In fact let us quote from the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION where it states: "The importance of the viscosity of liquid paraffin is engaging the attention of medical men. *The London Lancet* has shown that the viscosity is more important than the specific gravity, for, whereas the specific gravity may be the same for different samples, the viscosities vary considerably. The higher the viscosity, the more suitable is the oil for medical use as an internal lubricant." (From page 1513, Dec. 1915.)

With this point uppermost in your mind we will present a table in which we have tabulated carefully results obtained by us in our own work with Russian and American Oils. The viscosity was obtained by the Engler Viscosimeter. We are also including in the table, for comparative purposes, the specific gravities and cold tests.

Two samples of Russian Oil and two samples of American Oil were used in these experiments. The Russian Oils were from two very distinct sources of supply. The American Oil No. 1 and No. 2 were obtained from the same source, No. 1 being extensively advertised to the public, while No. 2 was supplied in bulk only.

	Sp. Gr. at 59° F.	Cold test.	Viscosity at 68° F. (Engler).
American Oil No. 1.....	0.8480	Clouds at 40° F., Congeals at 30° F.....	5.4
American Oil No. 2.....	0.8520	Clouds at 18° F., Congeals at 14° to 16° F.....	4.71
Russian Oil No. 1.....	0.8600	Congeals at 0° to —2° F.....	4.26
Russian Oil No. 2.....	0.875	Congeals at —4° F.....	10.26

We may first glean from the above table that although the specific gravities of American Oil No. 1 and No. 2 are not widely different, we can obtain positive proof of their structural difference by the cold test. The viscosity of the American Oil supplied the public seems slightly higher than American Oil No. 2. In comparing the Russian Oils, we note that these samples did not cloud before congealing, also that of the two Russian Oils, No. 2 is of higher specific gravity and viscosity. Again. it is interesting to see that American Oil No. 1, although having a lower specific gravity than Russian Oil No. 1, has a somewhat higher viscosity—this bearing out the statement already quoted from the *Lancet*.

In concluding, we will summarize by stating that a Liquid Paraffin which has undergone extensive clinical investigation, is free from olefins or other active substances, and which is of a high viscosity, should serve as the best medicinal lubricant for intestinal stasis.

LABORATORY OF
DAVIES, ROSE & CO., LTD., BOSTON, MASS.

THE OPPORTUNITY FOR DEVELOPING HISTORICAL PHARMACY COLLECTIONS AT THE NATIONAL MUSEUM.*

BY FREDERICK L. LEWTON.[1]

I have been asked to speak to you on the opportunity for developing the historical pharmacy collections at the National Museum. It might be well, even

* An address delivered to the Washington Branch of the American Pharmaceutical Association, January 31, 1917.

[1] Acting Curator, Division of Medicine, U. S. National Museum.

though I am speaking to Washingtonians, to say a few words on the inception and history of the Museum and its collections.

The National Museum was organized in 1846 by the act of Congress transferring to the Smithsonian Institution the custody of the "National Cabinet of Curiosities" at that time deposited in the Patent-Office Building. The act above referred to provides that "all objects of art and of foreign and curious research, and all objects of natural history, plants, and geological and mineralogical specimens belonging or hereafter to belong to the United States, which may be in the city of Washington," shall be delivered to the regents of the Smithsonian Institution, and, together with new specimens obtained by exchange, donation, or otherwise, shall be so arranged and classified as best to facilitate their examination and study.

The National Museum is the authorized place of deposit for all objects of natural history, mineralogy, geology, archaeology, ethnology, etc., belonging to the United States or collected by the Coast and Interior Survey, the Geological Survey, or by any other parties for the Government of the United States, when no longer needed for investigations in progress. (Revised Statutes of the U. S. and the Statutes Forty-fifth Congress.)

It will be noted that the original act did not mention the word "exhibit" or necessarily imply it. During the first ten years after the founding of the Smithsonian Institution, specimens were collected purely and solely to serve as objects of research, no special efforts being made to exhibit them to the public. In 1857, the Institution assumed the custody of the "National Cabinet of Curiosities" on condition that the necessary appropriations for the maintenance of the collections should be continued by Congress. The Congress has up to the present time made appropriations for the National Museum, no financial support coming from the Smithsonian Institution.

The treasures in the custody of the Museum are utilized to the world by exhibiting them to the public, and by encouraging investigations on the part of the officers of the Museum and other suitable persons, and facilitating the publication of the results; also by the distribution to other museums and educational institutions of duplicate specimens, which have formed the basis of scientific investigation, these being identified and labeled by the best authorities.

The Museum by these means fulfills a threefold function. 1. It is a *Museum of Record*, in which are preserved the material foundations of an enormous amount of scientific knowledge—the types of numerous past investigations. 2. It is a *Museum of Research*, by reason of the policy which aims to make its contents serve as fully as possible as a stimulus to and a foundation for the studies of scientific investigators, and its treasures are open to the use of any honest student. 3. It is an *Educational Museum* of the broadest type, by reason of its policy of illustrating by specimens every kind of natural object and every manifestation of human thought and activity, by displaying descriptive labels adapted to the popular mind, and by its policy of distributing its publications and its named series of duplicates.

The Smithsonian Institution has always been extremely fortunate in having the hearty coöperation of the various Departments of the Government in its scientific work. The Navy Department began in 1881 detailing naval officers and young ensigns for service in the National Museum. Under this policy Surgeon-

General Wales detailed Dr. J. M. Flint, Assistant Surgeon, U. S. N., in 1881, to take charge of the medicinal collections. Dr. Flint retained his connection with the National Museum for 31 years.

A full collection of the Materia Medica of the world was very early projected as one of the exhibits of the National Museum. In addition to the large amount of drug material obtained at the Centennial Exhibition, the Smithsonian Institution received the promise of aid by Schieffelin & Co., of New York. This firm volunteered to furnish the Museum a complete collection of the drugs then in use in the United States and Europe and sent a representative to the International Pharmaceutical Convention, held in London the summer of 1881, with the special object of obtaining certain obscure and unusual substances that could not otherwise be secured. In 1882 the Agricultural Department transferred to the Museum several large collections of drugs which it had obtained at the Centennial Exposition of 1876.

Great assistance in building up the collections was also rendered at this time by Parke, Davis & Co., Detroit; McKesson & Robbins, New York; Wallace Bros., Statesville, N. C.; etc.

During Dr. Flint's first year in the Museum he published two circulars: one on the "Classification and Arrangement of the Materia Medica Collection," and the other "A Classification of the Forms in which Drugs and Medicines Appear, and Are Administered." This list was prepared as the basis of a special exhibit to illustrate the forms in which medicinal substances appear in commerce or are prepared for administration by the pharmacist.

The attempt to obtain a complete collection of the official pharmacopoeias of all nations met with great success and Dr. Flint undertook to compile from these, for use in the arrangement of the collections, a list of all the articles of the materia medica of the world and the authorized preparations of each.

In 1898 the more comprehensive title of Division of Medicine was substituted for that of "Materia Medica," theretofore used, and the collections were developed along the lines adopted for other branches of human activity. At this time the attempt was made to illustrate the history of medicine, or the evolution of ideas concerning disease and the healing arts. The classification adopted included: Magical Medicine; Psychical Medicine; Physical and External Medicine; Physiological or Internal Medicine, including drugs; and Preventive Medicine.

The collection of drug plants soon became notable for the great number of carefully printed labels. Dr. G. Brown Goode, in charge of the Museum for many years, described an efficient educational museum as "a collection of instructive labels, each illustrated by a well-selected specimen."

During the year 1912, Dr. Flint, then Medical Director, U. S. N., tendered his resignation as Honorary Curator of the Division of Medicine, and it was deeply regretted that the severance of this connection deprived the Museum of his active participation in the further development of the Division.

As it was founded to illustrate on broad lines the theories and methods for the relief of sickness and injuries as held and practiced by man from earliest historic times to the present, the plan of this Division in the National Museum contemplates an extensive and comprehensive collection which shall be both interesting and instructive. There is a complete descriptive card catalogue of the collection.

If there were time, much might be told concerning the many valuable and interesting specimens comprising the National collections.

The collections of the United States National Museum are already unique by reason of their illustrations of the beginnings of many important American industries and inventions; as shown by the original pieces of apparatus belonging to the telegraph, telephone, phonograph, sewing machine, cotton gin, gasoline automobile, steamboat, etc.

The opportunity is here to gather up and to preserve in a National Institution in the National Capital, the many unique and unreplaceable objects connected with the beginning and early history of pharmacy in the United States, which can still be collected. Will not this Washington Branch of the American Pharmaceutical Association undertake the task?

THE CENTENNIAL OF CHEMISTRY

The centennial of the discovery of oxygen. This celebration at the grave of Priestley in Northumberland, Pa., in 1874, led to the formation of the American Chemical Society. Dr. Chandler is the seventh figure from the left in the second row. Mr. B. G. Amend, Professor Maisch, Dr. Fr. Hoffmann and Professor Bedford are in the center and Professor Remington is the bearded figure at the right of the background.

SECTION ON PRACTICAL PHARMACY AND DISPENSING, AMERICAN PHARMACEUTICAL ASSOCIATION

PHARMACEUTICAL EMULSIONS FROM THE COLLOID STANDPOINT.*

BY LEO ROON.

In a previous paper,[1] the writer traced the development of the various theories of emulsification from 1870 to the present time, and showed how diligently physical and colloid chemists have contributed to the knowledge of the subject of emulsions. Hardly a chemical publication is received to-day that does not present some new phase of emulsion work. Yet, we find, in our own specialized field, pharmacy, that practically no progress has been made for seventeen years, toward a clearer conception of emulsions or a proper utilization of colloid chemical ideas on the subject. If we are too practical to develop theory, then let us attempt to apply the available theory to our practice.

Physical chemists state that an emulsion is a very fine distribution of one liquid phase in another liquid phase. For instance, if an oil is added to water, carefully, so that two separate clear layers exist, we have a system consisting of two different homogeneous parts, each of which is called a phase. If the two-phase system is now vigorously shaken, one of the phases becomes finely subdivided in the second phase; and the resultant produced is termed an "emulsion;" although in the case cited, the resulting emulsion is unstable. That phase which is divided into small separate volumes (in this case, the oil) is called the disperse or internal phase; that phase in which the disperse phase is distributed (in this case, the water) is called the dispersion medium, or external phase.

When a pharmacist speaks of an emulsion, he has in mind, apparently, only one type of emulsion; that is, the oil-in-water type, in which the oil is the internal phase, and the water is the external phase. Cod-liver-oil emulsion is an example of this type, the oil droplets being suspended in water through the intervention of the film of emulsifier.

The physical chemist, however, as indicated by his broad definition, does not specify any one particular type—he is acquainted with two general types, the oil-in-water type, just mentioned, and the water-in-oil type.

In the water-in-oil type, water, which is the internal phase, is emulsified in the oil, which is the external phase. Examples of this type are lanolin, lubricating grease, etc.

Strange as it may seem to most of us, the second, or water-in-oil type of emulsion is by far the more important. Holde[2] shows that lime and alumina soaps are used in the manufacture of lubricating grease, these soaps acting as emulsifying agents for the water (internal phase). Toch, in his "Chemistry and Technology of Mixed Paints," states that mixed paints contain water as the internal phase.

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Atlantic City meeting, 1916.

[1] JOUR. A. PH. A., 5, 496, 1916.

[2] Zeit. Kolloidchemie, 3, 270, 1908.

Bancroft[3] writes, "Since there are said to be twenty million gallons of mixed paints used in the United States, this type of emulsion (water in oil) is unquestionably the more important one commercially; and it is rather extraordinary that the writers on emulsions should have overlooked this important industry."

In order to determine the type to which a given emulsion belongs, either Robertson's[4] or Briggs' method may be employed. Robertson's method consists in sprinkling a few grains of the bright-red dye, Soudan III, on the surface of the emulsion. Soudan III is insoluble in water, but soluble in oil. Thus, if the color spreads rapidly on the surface, the emulsion has oil as the external phase and is of the water-in-oil type. If the color remains confined to the droplets of oil with which the grains are in actual contact, then water is the external phase and the emulsion is of the oil-in-water type. Briggs' drop method, however, is as efficient and more simple. It consists in placing a drop of emulsion on a glass plate by means of a rod, and adding a drop of water to the drop of emulsion. The two are stirred together. If the emulsified globules spread in the water, it is an emulsion of the oil-in-water type; but if there is no spreading, it is an emulsion of the water-in-oil. The principle involved is that one can dilute an emulsion by adding more of the external phase.

Having at hand, now, the fact that two distinct kinds of emulsions are possible, and also having methods of determining the type to which an emulsion belongs, it will be interesting to take a few preparations in the Pharmacopeia and classify them according to their types; U. S. P. VIII was used.

The official emulsions of almond, asafoetida, chloroform, cod-liver oil and turpentine bring out nothing new. They belong to the oil-in-water class of emulsions. Among the ointments, cold cream presents a strange problem. This preparation may be considered as an emulsion of an emulsion. The mechanism of the reactions in cold cream manufacture is interesting. The almond oil, wax and spermaceti are melted together, and the solution of borax in rose-water is added. The borax solution is alkaline, due to the hydrolysis of sodium borate, and is capable of saponifying the free fatty acids of the almond oil. This small amount of soap formed emulsifies only a part of the oil-wax mixture, since the proportions of the ingredients are not proper for complete emulsification. The two phases of the system now are: (1) Soap emulsion of the oil-in-water type; (2) the melted mixture of oil and wax. The U. S. P. directs to stir rapidly and continuously until congealed. The stirring has the effect of keeping the internal phase (emulsion 1) finely dispersed while the congealing oil-wax mixture envelops the globules of the above emulsion, No. 1.

The rigidity of the finished ointment prevents the coalescence of the globules of the internal phase. Cold cream, by Briggs' test, is an emulsion of the water-in-oil type, the internal phase being an aqueous soap emulsion dispersed or emulsified in the oil-wax mixture, which acts as the external phase.

Mercury ointment conforms to the general definition of emulsion. Mercury is the liquid internal phase; the emulsifier is the oleate of mercury; and the external phase is the lard-suet mixture. Lard and suet, even though rigid at ordinary temperatures, are considered liquids, since they are non-crystalline bodies. The

[3] Jour. Phys. Chem., 17, 501, 1913.
[4] Zeit. Kolloidchemie, 7, 7, 1910.

preparation may be classed with the water-in-oil emulsions, because of the oily external phase, mercury having been substituted for the customary water as internal phase. Quincke[5] called attention to a similar case in 1888.

Ointment of mercuric nitrate is another example of water-in-oil type of emulsion. The internal phase is solution of mercuric nitrate; the external phase is elaidin.

Concerning hydrous wool-fat, Lewkowitsch, in the "Chemical Technology and Analysis of Oils, Fats and Waxes," states: "Although insoluble in water, wool-wax possesses the remarkable property of absorbing larger quantities of water than any other wax. The emulsion it forms with water has the appearance of a perfectly homogeneous mass. This wool-wax can be mixed with as much as eighty percent of water." Thus, hydrous wool-fat belongs to the water-in-oil type of emulsions.

The ointments of red and yellow mercuric oxides contain ten percent of water, which is used for levigation of the oxides. The forty percent of wool-wax emulsion emulsifies the water and keeps it permanently in suspension.

In mercury plaster, mercury is the internal phase; oleate of mercury, the emulsifier; and the wool-fat-lead-plaster base, the external phase.

Ammonia liniment belongs to the oil-in-water type of emulsions, the cottonseed oil being the internal phase; a mixture of water, ammonia and alcohol constituting the external phase; and ammonium oleate, formed by the saponification of the oleic acid by the ammonia, acting as the emulsifier.

Because we have always been accustomed to consider carron oil, or lime liniment, as an insoluble soap, it is extremely difficult to become reconciled to the fact that it is nothing more than an emulsion of the water-in-oil type. Suppose that 200 Cc. of lime liniment are to be made, using 100 Cc. of lime-water and an equal volume of linseed oil: One hundred cubic centimeters of lime-water contains, at 25° C., 0.14 Gm. of calcium hydroxide, which, if all used up, is capable of forming only 1.2 Gm. of calcium soap, calculated as calcium oleate. Therefore, if all the calcium hydroxide in the lime-water is used up, it has reacted with approximately only 1 Cc. of the linseed oil, and 99 Cc. of the oil remains unchanged. Why, then, call carron oil an insoluble soap? Carron oil is an emulsion in which water (internal phase) is emulsified in linseed oil (external phase) through the agency of the small amount of insoluble calcium soap formed by the interaction of calcium hydroxide and the free fatty acid of the oil.

As a summary, it will be well to quote Newman's[6] general statement: "Whether one liquid is emulsified in the second, or the second in the first, depends on the nature of the emulsifier." A hydrophile (affinity for water) colloid, like acacia, sodium oleate, etc., will tend to make water the external phase. A hydrophobe (aversion for water) colloid, like magnesium oleate, rubber, etc., will tend to make water the internal phase.

RESEARCH LABORATORY, ANGLO-AMERICAN DRUG CO.

ABSTRACT OF DISCUSSIONS

H. V. ARNY.—I am convinced that the subject of physical chemistry as applied to pharmacy is one of the greatest possible fields for the professional pharmacist. We have two members of this association, who have started work in this direction. Dr. Wimmer has been engaged in it

[5] Wied. Ann., 35, 589, 1888.

[6] Jour. Phys. Chem., 18, 34, 1914.

during the last two years, and lately Mr. Roon has taken up the study. We see the results of it at this moment. Our old fashioned notions about emulsions are bound to be revised, and one of the most interesting things in that connection is that I have been teaching for years that carron oil is an insoluble soap. It never occurred to me to figure out the proportions. I just took the statement of other people.

C. P. WIMMER.—Some years ago I happened to come across an address given before a society of German apothecaries, the Charlottenburg Institute of Pharmacy, by Prof. Thoms, who pointed out some of the practical applications of colloid chemistry to pharmacy. I then started to study colloid chemistry, and found it a field of tremendous possibilities for the practical pharmacist. You have simply to scratch the surface, and there opens a door of new possibilities that are simply unlimited. The trouble is that you must know higher mathematics, which pharmacists, as a rule, do not know. You also must know physiological chemistry well, if you want to do the work thoroughly. Nevertheless, there is no reason why, as we progress, we should not take up this kind of work. Mr. Roon has taken up the manufacture of emulsions. I have been studying viscosity. When I am through with my work, I hope to bring some new facts before you. This work of Mr. Roon shows what can be done. Such work will do more to elevate us in the eyes of scientists, than anything else we could undertake.

L. F. KEBLER.—Some years ago, there was brought before me a product which was sold as lanolin hydrate. The belief being that it was not lanolin, but a mixture of lanolin and petrolatum, I examined it, and could not satisfy myself that it was not pure lanolin; but I referred it back to the chemist, and we finally found that it was a mixture of petrolatum and lanolin. It would mix in all proportions with water, just as the ordinary lanolin does. It is important that the chemist be well qualified to meet extraordinary conditions. In this case, all pharmacopeial methods for identifying the product were unsatisfactory, and it was necessary to establish new methods by which the presence of the adulterant could be established. That required much investigation relative to saponification, emulsification and solubility, as well as all the conditions under which they occur. We finally did establish the presence of the adulterant.

J. U. LLOYD.—Except in eclectic literature, I have made no publications on these lines since 1885. I have been constantly at work since then, however, and have never been discouraged. I agree with our young friend that we have in this field of pharmacy the greatest opportunity that has come to us within the century. It is our field, and we should take advantage of our opportunity. When Dr. Emil Fischer, in Cincinnati, gave a lecture last winter, on emulsions, I was present; and in the discussion, I said that I regretted the fact that from outside of pharmacy had come that study of emulsions. I thought that it was our field. It requires no expensive apparatus; but the apothecary behind the prescription case could, with the addition of a microscope to the ordinary conveniences of a prescription case, accomplish as much as a man in the laboratory.

I remember well the instructions given me by my old preceptor, Geo. Eger, fifty-four years ago, on the subject of the making of emulsions. Generally the rule is applicable, not only to one, but to all, and I believe that it will work as perfectly to-day as it did a half a century ago. If you use it you will find that you first make a watery emulsion in oil, which then turns to an oily emulsion in water. After the emulsion is made, any alcoholic constituent that may be prescribed is added. Sugar is to be added finally. Then you will have an emulsion that will pass the test.

Let me congratulate this society on this paper. Pharmacy is coming into its own. Structural chemistry will still have its place. It need not, and should not be brushed aside; but the study of these substances and their actions on each other, such as class attraction, structural attraction, cohesion, adhesion, etc., is bound to be recognized. These actions all deal with pharmacy in our plant life and animal life.

U. S. P. AND N. F. PROPAGANDA.*

A PRACTICAL SUGGESTION.

BY EMIL ROLLER.

The question often arises among pharmacists, "Why is it that the physician

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Atlantic City meeting, 1916.

in general makes so little use of the galenical preparations of the U. S. P. and N. F.?" To get a satisfactory answer to this timely and most important question, all guessing and sophisticating will be futile on the part of the pharmacist. To get at the bottom of this fact (or evil) one has to interrogate the physician himself to find out why he resorts more to the special formulas of manufacturers than to the officinal ones: By not only asking one or two, but by the score, one will invariably get the answer that he has not the time to make himself acquainted with these two officinal books, because they are too voluminous. He is interested more in clinical work, he is looking for cases, and therefore the manufacturer supplies him with the special formulae for the particular cases, that come within his treatment. Furthermore, if he wants the effects of a special alkaloid, salt or botanical drug, he specifies the dose and vehicle himself, thus making the vast number of elixirs of both officinal standards unnecessary. This is the case also with many liquors, etc.

The important question now is, "How can this evil be remedied?" Shall all this valuable work of able brains and sacrifice of time and labor be only destined to that limited use it enjoys now or can it be handed to the medical men-at-large in a better and more "attractive form," to induce the physician to take advantage of our professional aid handed over to him in such reliable form as the U. S. P. and N. F. represent? According to my experience it must be done differently than at present. There must be a different edition for the medical practitioner, more concise, leaving out all working formulae intended for the druggist, which do not interest him, also tests of purity and identity should be omitted, neither should the grouping in alphabetical form be adhered to, for him the arrangement according to indications is only of importance. For instance, if he has a certain case and wants to know what officinal preparation he can use and can look in the "Pharmacopoeial and National Formula Guide" or some otherwise titled reference book, where the diseases are alphabetically listed, to select his choice, with formula and dose and quantities of each dose, he surely will make more use of our standards than now.

If we consider ourselves in the position of a busy practitioner, we would appreciate such a helpful "Vade Mecum" very much, while at present it really can not be expected of him to dig out just what he needs out of these two rather voluminous books, suitable for him in each particular case.

The compilation of such a condensed, instructive and practically arranged side edition for the physician would be most welcome to the medical world-at-large and made good use of.

Now with the completion of the Ninth Edition of the U. S. P. and N. F. IV, I think it would be proper to also publish such a "Vade Mecum" or whatever you may call it, for the physician's use, and it will immensely help to make these preparations popular with the medical men and thus bring pharmacists and physicians in closer contact than now predominates.

These suggestions, if heeded by the members of the A. Ph. A. and carried out in the above indicated, or a similar manner, will meet with great success, an object really desired by leading men in both professions. Let us hope for its realization.

SECTION ON HISTORICAL PHARMACY, AMERICAN PHARMACEUTICAL ASSOCIATION

THE BLAIR PHARMACY—ESTABLISHED 1829.*

BY H. C. BLAIR AND ROBERT P. FISCHELIS.

The city of Philadelphia is richer in historical lore and places of historical interest than perhaps any other city in the United States. To the pharmacists of every city and town of our country, Independence Hall, Carpenter's Hall, the Liberty Bell, Old Christ's Church, Betsy Ross House, etc., are well known. Nor is the part that Philadelphia has played in making pharmaceutical history unknown to most of us. As early as 1821 a college of pharmacy was organized in Philadelphia and that venerable institution is now almost a century old. In 1828, seven years after the opening of the Philadelphia College of Pharmacy, Henry C. Blair, who was born at Carlisle, Cumberland Co., Pa., purchased the pharmacy of Franklin Smith located at 8th and Walnut Streets, Philadelphia. Mr. Blair had previously served his apprenticeship under Mr. Smith. He attended lectures at the Philadelphia College of Pharmacy in 1834 and 1835, graduating in 1835.

The fact that this store has remained in the possession of the Blair family since 1829 and has passed from the hands of Henry C. Blair, Sr., to Henry C. Blair, Jr., at the former's death and at the latter's death was turned over to Henry C. Blair, 3rd, its present owner, would be sufficient to make it of historical interest. It has been said that the average life of a drug store in the United States, under any single proprietor is three years. If such is the case the record of the Blair Pharmacy is indeed remarkable.

Mr. Blair, Sr., was the first apothecary to use the title *Pharmaceutist* which was later changed to *Pharmacist*. It is of interest in connection with this title to repeat the following comment from the *Druggists' Circular*, 1907, page 103:

"When the Chicago College of Pharmacy launched *The Pharmacist* in 1868, the *Circular* in commenting on the name adopted for the new journal said: 'We don't quite like the title, for it seems to us not to be exactly naturalized English; at any rate it is an inharmonious word, and far from being an improvement on *Pharmaceutist*, a term better known and with more weighty hindquarters to balance a heavy head and shoulders.' "

Who says *pharmaceutist* now?

In those early days, pharmacies were opened and conducted for the purpose of compounding prescriptions and dispensing drugs. Mr. Blair was an able pharmacist and rapidly acquired the confidence of the medical profession of the city. His son and grandson followed in his footsteps and to this day the Blair store is known as a prescription pharmacy and enjoys the utmost confidence of physicians.

Situated in the old Washington Square district of Philadelphia, the Blair Pharmacy became the prescription store of the entire neighborhood centering at

* Read before Section on Historical Pharmacy, A. Ph. A., Atlantic City meeting, 1916.

this historic square, which was at that time, the residence section for many of the leading old families of Philadelphia.

Blair's Drug Store was also a kind of social center and meeting ground for leading citizens who would congregate there in the evening after the day's work and discuss matters of social, civic, or national interest, around the large old-fashioned stove in the center of the store and the Blair store was known among them as *The Rialto*. Among these citizens may be mentioned Attorney-General Benjamin Brewster, Richard Vaux, Edwin Forest, Henry Carey, Dr. Agnew, Dr. Gross, Dr. Pancoast, Dr. Penrose, Mr. Drayton, Mr. Morris, Mr. George Boker, Mr. Erhlen and others.

The "Old Families" of Philadelphia used and continue now to use Blair's Cologne, Castor Oil & Glycerine Pomade for the hair, Blair's Quinine & Glycerine Hair Tonic, Elixir Iron Quinine & Strychnine, Bitter Wine of Iron, Liquid Rennet, Wheat Food, Medicated Prunes, Racahout, Blair's Tooth Powders, Washes, and Pastes, etc.

The leading dentists of the day entrusted Mr. Blair with the compounding of their dentifrices, White's, Jack's, Birkey's, Briscoe's, Dickey's, Darby's, Hudson's, McQuillan's, Gulliam's, and many other dental preparations originated in this way.

BLAIR PHARMACY

Pharmacy at that time was more complex; physicians wrote prescriptions containing a number of drugs, each added to the compound to meet special indications in the case under treatment. Owing to Mr. Blair's knowledge of incompatibilities and his skill in compounding elegant pharmaceutical preparations, his advice was continually sought by the profession in devising palatable and compatible mixtures. Blair's Drug Store, therefore, became the incubator from which emanated many of the elegant pharmaceuticals for which those times were distinguished. At Blair's Drug Store originated Jackson's Pectoral Syrup, Jackson's Ammonia Lozenges, Jackson's Compound Syrup of Phosphates or Chemical Food, devised by the celebrated physician and University of Pennsylvania Professor, Dr. Samuel Jackson. Elixir of Iron Quinine and Strychnine which entered and has now departed from the U. S. P. originated in this store, as did also Wine of Beef and Iron and Elixir Curacao.

No pharmaceutical problem capable of solution in a retail pharmacy equipped with better than average facilities was ever or is now sidestepped in Blair's Drug Store. The following instances will serve to demonstrate this contention: "While not a doctor's prescription, the following formula was compounded in this store recently and may be of interest if not of value to some member of our Association:

"One bushel of white potatoes.

"Extract the juice and reduce to one-fifth its bulk and add enough glycerin to preserve.

"*Directions:* Rub in well over the part affected by rheumatism.

"Of course, the juice of one potato was experimented with first.

"From one bushel of potatoes, three gallons and one pint of juice were extracted by grinding and pressing. This juice was freed from starch, as far as possible with a fine straining cloth. Evaporated with direct slow heat to four pints and one pint of glycerin was added. After evaporating, the juice was allowed to cool and became thick like paste. However, repeated strainings and washings removed the starch entirely, and left a dark brownish green extract very unpleasant to smell and taste and irritating to the throat when swallowed.

"The cost of new potatoes was $2.25, pint of glycerin 27 cents, young clerk's time, day and half, $2, and the customer was charged $7.00. The customer said that he had tried a dozen drug stores who had all refused to do the work."

In August, 1916, a physician after trying in New York and Philadelphia to secure Succus Cineraria Maritima ordered two ounces made for him at Blair's store. The fresh plant was obtained through the kindness of an employee at a well-known seed house and the juice was expressed and preserved with fifteen percent of alcohol.

Clinical chemical work is also performed in the Blair store but it is not solicited as neither the public nor the doctors seem to be willing to pay for it. All drugs for making tinctures, infusions, etc., are ground in the laboratory of this store, thereby securing the quality, freshness, etc., necessary for producing the best preparations.

Henry C. Blair, Jr., and his brother succeeded their father under the firm name Henry C. Blair's Sons and were prominent druggists, retail and manufacturing, in Philadelphia for many years.

In what esteem the business under their management was held by the medical profession may be judged by the following incident, related to the present Mr. Blair by Dr. Reyburn, of Washington, during the meeting of the American Therapeutic Association in Philadelphia, in 1906. Dr. Reyburn who was one of President Garfield's physicians said:

"During the last illness of President Garfield, the physicians in charge desired a certain drug which they could not get in Washington, therefore, a messenger was sent by special train to Blair's Drug Store in Philadelphia. He secured the drug and hastened back to Washington by special train."

Under the name Henry C. Blair's Sons, a display of Pharmaceutical Specialties at the Centennial Exposition of 1876 in Philadelphia, received a medal and certificate of "Highest Award." Under this name also a branch store, retail only, not manufacturing, was opened at 19th and Chestnut Sts., and managed by one of the brothers successfully for many years, until 1893, when Henry C. Blair, 3rd, joined his father as a partner at the old stand, the brother taking the branch store.

The following quotation, taken from the *American Druggist* of March, 1893, is of interest here: "It is seldom that a similar case of conservatism can be found *viz.*, three generations of this same full name, in the same business and location, and all graduates of the same College of Pharmacy."

The Philadelphia College of Pharmacy some years ago exhibited the original

lecture tickets of the three Henry C. Blairs'—father, son and grandson—thus emphasizing the unique occurrence referred to by the journal quoted above.

Since 1829, the practice of pharmacy has undergone many changes. Rarely is the druggist of to-day called upon to spread a plaster, make conserves or confections or even to turn out a batch of pills. Fluidextracts and other preparations of drugs have come and gone. Yet the Blair pharmacy achieved its reputation by preparing just those kind of pharmaceuticals with the skill of finished artists. Many of the customs originated by Mr. Blair, Sr., are still in vogue at the store to-day, not alone for sentimental reasons but because they are time-tried and have proven efficient.

Many well-known pharmacists of to-day and former years received their training at the Blair Pharmacy and have since followed in their own stores, the methods and ideas inculcated under the tutelage of the Blair's and have been highly successful. Apprentices at the Blair Pharmacy were always well taken care of. The following "Rules and Regulations" originally adopted in 1848 and modified in 1893 were printed and a copy was handed to every new employee. These "Rules" were later incorporated in a chapter on Store Management in *Parrish's Practice of Pharmacy*.

1—Store to be opened promptly at 7 A.M. and closed at 10 P.M.; Saturdays, 10.30 P.M. Sundays, 9 A.M. and 9 P.M.

2—Business hours will include time between 7 A.M. and 6 P.M. on week-days, except when special work requires longer hours.

3—During business hours all hands must be on their feet and employed either in waiting on customers or some other store duty.

4—As waiting on the counter requires most knowledge and experience, the senior clerk must always go front first, then the next oldest. The younger clerks are not to wait on customers except when the older clerks are occupied.

5—In every case customers must be waited on promptly and when goods are to be sent it must be done with the least possible delay.

6—*Never* put up an article unless you are certain you are right.

7—Every other duty must give way to waiting on the counter, except when serious detriment would be the consequence.

8—Every person entering the store, whether rich or poor, infant or adult, white or colored, must be treated with courtesy and kindness.

9—Boisterous mirth and a sullen temper are to be equally avoided as productive of neither business nor business character. The acquisition of a uniformly cheerful temperament is an attainment worth far beyond the price it usually costs.

10—There are to be no master and no servants. Each one is to feel conscious of the fact that the performance of the duties assigned to him are just as necessary and as important as what pertains to any other hand in the store. All useful employment is honorable. Indolence is a disgrace.

11—As neatness, order, cleanliness and accuracy are necessary and not mere accomplishments in a pharmacist, all are required to practice them constantly.

12—Every clerk is expected to become a graduate of the Philadelphia College of Pharmacy and time will be allowed during third and fourth years for attending the lectures (three evenings for Senior course; two evenings and afternoon for Junior course).

13—To deserve the Degree of Graduate will require severe economy of leisure hours, and their application to the study of those books which relate to the theoretical and practical knowledge necessary to make an accomplished pharmacist.

14—Students need but few social acquaintances and they should be very select. While the occasional visit of a well-behaved young friend will be allowed, lounging in the store will not be tolerated.

15—Each junior clerk will have at his disposal an afternoon and evening every week (from 1 P.M. until 10.30 P.M), and these privileges will not be interfered with unnecessarily.

Rooms are furnished for all clerks in store building.

16—No junior clerk will be allowed to be absent at night after hours without permission. The first and second clerks are expected to be in at reasonable hours, and under no circumstance are both to be away at same time.

17—Each clerk will be allowed two weeks vacation each year.

18—Necessity requires that the store should be accessible on Sunday for the purpose of supplying medicines; beyond this the proprietor is not desirous of doing business on that day, and he enjoins on those in his employ that while they need not positively decline to furnish an article when asked for, to hold out no inducements to purchasers.

19—It is not the wish of the proprietor that any of his clerks should extol an article beyond its merits to advance his pecuniary interests, or to say or do aught in the performance of his duty that he would not be willing that others should say or do to him under the same circumstances.

20—Goods taken from stock for personal use of clerks must be paid for at cost.

21—The proprietor would affectionately recommend and advise all his clerks to attend public worship with a denomination of his own selection, at least once every Sunday, as circumstances may permit. The habit, when accompanied by a corresponding moral deportment (without considering the immense spiritual advantage which may result from it), confers a degree of respect in the estimation of those whose esteem is worth having, that scarcely any other act will.

22—The daily intercourse of the employees should be characterized with the courtesy becoming young gentlemen.

23—Should a clerk wishing to leave before his alloted time expires have a good reason, the proprietor will not probably object, and should his cause be a bad one and be persisted in, the proprietor will certainly not offer hindrance to his going. The proprietor depends on the honor of the individual.

24—A cheerful compliance with the foregoing rules is expected and the repeated infraction of a known regulation will be cause for immediate dismissal.

The text of these rules clearly shows what type of man could be expected to hold a position in this store and the fatherly interest which the proprietor took in the men in his employ.

There is in Mr. Blair's safe, a clerk's book which contains the complete record of every clerk or apprentice who has ever been employed in the Blair Pharmacy. A short biography, the length of time spent at the store, salary and increases as well as dates of entering and leaving the employ of Mr. Blair together with other information which may help to keep track of the man are found in this book. This register of clerks is still being kept and the information mentioned above is recorded. The proprietor is thus prepared to give definite and accurate information about his clerks whenever necessary. How many other proprietors could do likewise? Evidently affidavits to support statements of length of time spent at Blair's store are not considered as mere "scraps of paper."

It is refreshing to enter a drug store in a busy section of a large city and feel the atmosphere of the old apothecary shop. Absence of patent medicines from general view; displays of pharmaceuticals made or put up by the pharmacist, a large roomy section for laboratory and prescription purposes, an additional section with machinery for manufacturing on a fair scale—all of these carry us back to the days of the respected apothecary of old, or may we be so bold as to say that they give us an inkling of the distant future.

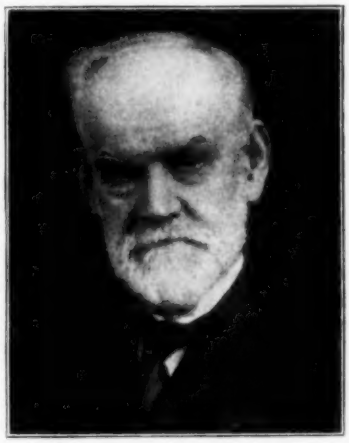
There are so many excellent pointers that one can gather from the prescription room of this establishment that the writers have omitted them here and contributed them in the form of a separate paper to the Section on Practical Pharmacy and Dispensing.

Whether or not the financial returns are as great in a store of the Blair type as they are in some of the department drug stores of to-day is, of course, an open question but there is no questioning the fact that the satisfaction which the Blairs have had in really practicing pharmacy professionally is greater compensation for their efforts than could be represented by a few extra paltry dollars.

MY EARLY IMPRESSIONS OF THE DRUG BUSINESS.*†

BY W. L. DuBOIS.

The Chairman of the Historical Section has written to ask me if I would prepare a paper on my impressions of the drug trade when I first entered it. I will endeavor to do so, but it must be from memories of long ago. In the spring of 1851 I was attending the school of the Collegiate Reformed Dutch Church in New York. On leaving school one day my teacher, Mr. H. W. Dunsher, asked me if I would like to take a position in an wholesale drug house. He informed me that Mr. Bradhurst Schieffelin had asked him to recommend a good lad and he had suggested me. I went home, talked the matter over with my father, and I concluded to go down town and make an application for the place. The store was then located at 104 and 106 John Street. The first person I met on entering the store was Mr. W. A. Gallatly, with marking pot in hand, as he was shipping clerk at that time. He sent me in the office to Mr. J. H. Westerfield and he took me to Mr. James L. Schieffelin. After a long talk I was engaged at a salary of fifty dollars a year, and given a small desk in one corner of the office. As I remember the firm of Schieffelin Bros. & Co., it consisted of Samuel B. Schieffelin, James L. Schieffelin, Sidney Schieffelin, Bradhurst Schieffelin, A. D. Randolph and John Dix. Mr. Randolph and Mr. Dix with Mr. Westerfield attended to the out-of-town business, and Mr. Horace Willard to the city business. Mr. Willard I remember as a fine old gentleman, loved and respected by every one, and many a red apple, pear or orange I found on my desk put there by him. He died the following winter and his place was taken by Mr. Walter Coon.



W. L. DuBOIS

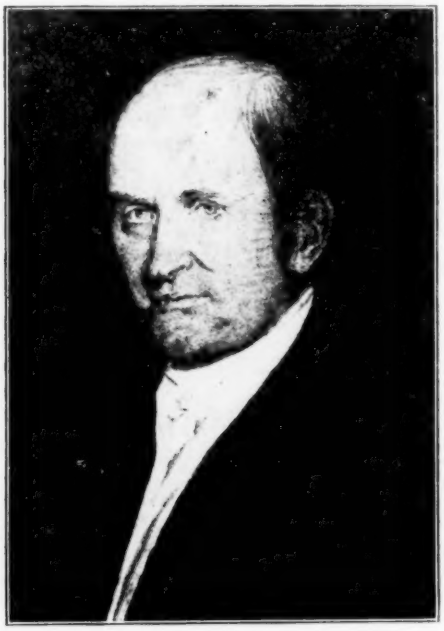
The John Street store was connected by a covered glass stairway with a store on Platt Street, where all the orders were put up. My first errand, I remember well, was an order for some pressed herbs at W. T. Peck's, a few doors above on John Street. My work was to get the mail three times a day, to take the bills of lading to have them signed, and to carry the monthly statements to some of the old drug houses, among whom were McKesson & Robbins, B. A. Fahnestock, A. B. & D. Sands, Ward Close & Co., Philip Schieffelin, Israel Minor and S. R. Van-

* Read before Section on Historical Pharmacy, A. Ph. A., Atlantic City meeting, 1916.

† The three historical papers (including this one) have an interest for pharmacists because they link the past to the present in American pharmacy; the personal touch, quite naturally, enters into the writings.

deuser. My second year was a repetition of the first, the third year I was transferred to the City Order Department and there I was taught to put up square packages. It was that same year, if I remember correctly, that the firm removed to a larger building just then completed at 170 William Street, corner Beekman, the business was increasing, but we had plenty of room to work in the new building. Among the boys at the city counter was Mr. D. R. Noves, who later, when the sundries department was added, was put there under Mr. Elihu M. Weed, who was in charge. Mr. Noyes went to St. Paul when he left Schieffelin's and there he eventually became the head of a large wholesale drug house. Some of the others associated with me at that time were Theodore Edwards, Israel Coon and Jacob Ring. Edwards was taken downstairs to assist Mr. W. H. Schieffelin in the buying department. Mr. Walter Coon had charge of the City Department with a Mr. Meyers as cashier. Mr. Meyers being in poor health was succeeded

DR. ABEL BRACE



DR. THOS. O'HARA CROSWELL

by Mr. W. S. Mersereau. After Mr. Coon's death Mr. Mersereau was put in charge of the department. I was put in charge of the city counter where the goods were put up. Goods going to Jersey City, Brooklyn, and New York City were delivered by express, and 12 M. and 5 P.M., when they had to be ready for delivery, were busy times.

I remained in the same position till March, 1863, when Mr. Benjamin Wey, whom I had known for a long time as an old customer of the House, made me a proposition to go in business with him at Catskill, and I accepted, arriving there on the last day of February, 1863, which fell on Saturday that year. On Monday morning I came to the old store which had been established in 1795 by Dr. Thomas O'Hara Croswell and Dr. Abel Brace. Thomas O'Hara Croswell had come from

Connecticut and was a practicing physician. There never has been, or will there probably ever be, one of the profession who did, or will secure, the confidence, esteem and love in which the good old "Uncle Doctor" was held by all ages, sexes, classes and conditions of men. Perhaps as great a share of love, esteem, and confidence as could be transferred from this excellent old man to any other was possessed by Dr. Abel Brace, his protegé, student and partner, and who succeeded not only in business, but in the affections of the people. This will give you an idea of the two noble men who established the old drug store. Dr. Croswell was interested in many things. He, with his brother Mackey, founded the first newspaper published in Greene County, and it was called *The Catskill Packet and Western Mail*. It was printed on coarse blue paper and the latest intelligence was brought by the fast sailing packet sloops which in those days made the passage from New York to Catskill (wind and weather permitting) in something less than six six days. This sheet also contained a goodly array of advertisements, and were interspersed with wood cuts which were said to be the handiwork of the doctor. His brother told that one of them was intended to represent a very black negro in the act of running away with a bundle attached to a stick swung over his shoulders. He said that "Tom sat up shivering through four d— cold nights to cut that little nigger." After he started the store he found that this, with his medical practice, was all that he could attend to, so he gave up the paper. They did a large business in oils, paints and dye woods, and they furnished all the doctors from Catskill to Delhi with their calomel, jalap, ipecac, etc.

When there was a post-office opened in Catskill Dr. Croswell was appointed post-master by George Washington. How well and how faithfully he performed his duties may be inferred from the fact that through all the changes of politics he had the appointment up to the time of his death—fifty years. I quote here from an article written at the time of his death, which occurred in February, 1844. The writer says: "My earliest recollections of Dr. Croswell are associated with the sugar plums and licorice sticks with which his capacious pockets were stored, and which for all my youthful ailments were a sovereign panacea, and whose sweet flavor still seems to linger on my tongue. I remember his kind looks and cheerful laugh, and can recall the very words of the nursery rhymes which he essayed to sing. Albeit, the melody was not of the richest, nor the music precisely such as would be adapted to a modern concert room, for the chiefest merit's of the Doctors warbling was, that it came directly from his benevolent heart. So from early manhood to old age he lived and labored in the village of Catskill. Many whose first earthly gaze was upon the doctor's face grew up through childhood and youth to man's estate, and then gave their last look to that same kind face as they passed away forever. Few who began life with him here remain, and yet he lingered to minister to the children and children's children of his early associates and friends. With no family except his excellent wife, he acquired a fair proportion of this world's goods and was esteemed quite wealthy. Possessed of a liberal mind, and desirous to contribute to the welfare of all around him, and confiding in the integrity of his fellow man, he parted with a large portion of his means, and lived to find his confidence misplaced, and his hard-earned gains virtually lost. Years and incessant occupation had at last begun to leave their mark upon him, and one winter morning we heard that God had called him home."

Mr. William H. Wey, who married Dr. Croswell's adopted daughter, succeeded to the business which he conducted until his death in 1856. Then Mr. Benjamin Wey conducted the business after his father's death for a number of years alone. Then he associated with him Mr. Edward Lavelle, but that partnership lasted only a little over a year, but during it the old store was remodeled in 1861, and at the time was considered one of the finest up-to-date stores on the Hudson River. In the spring of 1863 I became associated with Mr. Wey. The firm was "Wey & DuBois" for thirteen years, when Mr. Wey retired after a very pleasant business relation, in 1876. Since then the writer has conducted the business, but what a change! When I came to Catskill in 1863, we did an extensive business in paint, putty, and window glass, dye woods, potash, and Lorillard's snuff. Every farmer's wife in the fall would get in her supply of extract of logwood, cochineal, muriate of tin and indigo, and would send her wool to the little fulling mills, which were to be found on nearly every stream, to be carded, and she would do the spinning of the yarn and the dyeing during the winter. It was a very common thing to receive, about the last run of the boats, our extract of logwood, logwood chips, fustic, madder and red wood to carry us through the winter. Another great trade was potash. Every family at that time made their own soft soap and it did not take long to get rid of a seven-hundred-pound cask of potash. That is all done away with now, for the people are using the aniline dyes in place of making their own, and there are few now who make their own soft soap. In the old days we sold large quantities of Lorillard's Maccaboy snuff and Scotch and French rappe snuff, probably as much as a ton in the course of the year, that has gradually grown less until now we sell only about two hundred and fifty pounds in a year, quite a falling off as the younger generation have not followed in the footsteps of their grandparents in regard to that habit. We used to supply the country stores with essence of peppermint, wintergreen and castor oil and extract of lemon and vanilla. The railroads and the commercial travelers have changed all that now. The doctors carry their own medicines and put up their own prescriptions, except where there are ointments, liniments or suppositories to be made, we druggists get those. It is the manufacturing of tablets that has hurt the prescription business and made it easier for the doctors. One would scarcely recognize the business of to-day as compared to fifty years ago. My friend, Mr. Wey, remarked a few years ago, "If I was to come in the store now I would not know where I was at." Our trade is simply a local trade and to make ends meet we have to put in lines of trade we would not have thought of doing years ago. The changes since I came to Catskill fifty years ago are very great. All the old people have passed away, and I am the oldest man in business in the town now. I am very thankful for the good health that enables me to attend to business every day. I have had the pleasure of seeing my family grow up and am the proud father of nine children, four grandchildren and two great grandchildren, quite enough for one old man.

REMINISCENCES.*

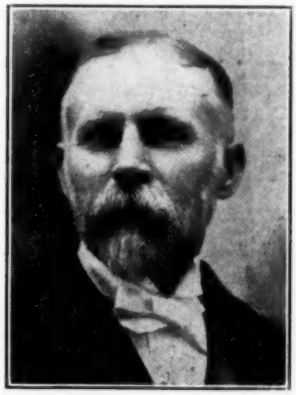
BY THOMAS D. McELHENIE.

On August 7, 1865, I entered the drug business in Wooster, Ohio, my father

* Read before Section on Historical Pharmacy, A. Ph. A., Atlantic City meeting, 1916.

having placed me with the wholesale and retail firm of Zimmerman & Company where he bought grocers' drugs, groceries, paints, glass, etc., for his village store in that county.

The firm did much the largest trade in the town in their day but not much in pharmacy. My job ranged from cub through porter, shipping clerk and entry clerk. When Abraham Boyd, a salesman for James R. Nichols & Co., of Boston, spent some days there in the early summer of 1870 I had been for some time the senior drug clerk. Mr. Boyd was an alumnus of the Philadelphia College of Pharmacy and put me in the notion of going there to study and "be somebody." In the five years I had not gained much headway in pharmacy, but I had learned to work and to use both hands, filling cans of *Carbon Oil*—now called kerosene—and barrels of sugar from the great boxes of Demerara and casks of New Orleans, which in that day came to us up the rivers, to Cincinnati or sometimes to Pittsburgh. Many and many a cold day I spent in the fireless warehouse crumbling these sugars by hand into salable form. My greatest acquisition in those five years was the love of a woman but I was not to know it till a few years later.



THOMAS D. McELHENIE

The firm and my father being agreeable, the matter of going to college was arranged, and in September, 1870, I traveled to Philadelphia. Starting out bright and early from the Bingham House, my first acquaintance was the jolly old Irish Quaker, Wellington Boyle, the head man in the retail part of the old establishment of Charles Ellis at Tenth and Market. As I was looking for a job he told me the best way was to just beat up the town, walk up one street and down the next trying every drug store, taking Tenth and Market as a base. I did just that, and when I landed a place in three or four days it was just across the street from the boarding house where I had already located and the nearest drug store to the College, namely, that of Lancaster & Bros. at Tenth and Arch. This is the old business of William Hodgson, dating from 1829.

Mr. Hodgson was not a graduate but had started this business, as above stated, about 1829. In Bullock's biography of Daniel B. Smith, who was, I think, the first president of the Philadelphia College of Pharmacy—it is stated that Smith & Hodgson started at 6th and Arch about 1828 and were succeeded in 1849 by Bullock and Crenshaw. This would indicate that Mr. Hodgson was a partner in one shop and owner of another. Mr. Hodgson and Mr. Frederick Brown, the first, were contemporaries, both tried their hands at Essence of Ginger at about the same time. Hodgson's product never attained extensive sale.

Thomas A. Lancaster graduated in the class of 1859. The date of his succession to the business of Mr. Hodgson I have not ascertained. It has passed through several hands since, the present owner dating 1893. The property still belongs to the Hodgson estate. I remember, during my time, an old gentleman, in Quaker garb, coming in for his rent about the first of every month.

I secured the place as clerk on the strength of a reference to Mr. Haffelfinger of Claxton, Remsen & Haffelfinger, publishers and booksellers, an offshoot

of the Lippincott house. The Wooster firm had given me a letter to Mr. Haffelfinger, and Lancaster & Bros. were occasional buyers of stationery there. This old drug store was and still is an awfully crowded place. It had a gallery of iron rods and heavy wire, reached by a short iron ladder, something like a fire escape and rather shaky. One use of that gallery was to lay up there for drying box lids of charcoal biscuits, lumps of a mass of charcoal, flour, etc., about the size of horse chestnuts. The store was headquarters for several specialties running back to Mr. Hodgson's time, one being Diamond Cement; another was "Solution of Morphia Meconat," which the jobbers would send for, paying $4.00 a pint. We made a great deal of Syrup of Stillingia Compound, most of it dispensed on prescriptions of a certain Dr. Buchanan down about Ninth and Arch. These prescriptions were always for a pint, chiefly the syrup and frequently potassium iodide was added; for dispensing they used the old style Congress Water bottles, dark green, heavily lettered. We made five gallons at a time and distilled off the alcohol from the percolate; for this purpose there was in the cellar a copper still built up in brick work. I suppose Professor Lloyd's process was used; he has assured me lately, that the old process was absolutely unworkable. By the way, speaking of Lloyd reminds me, if these notes seem trivial and tiresome, take it out of Lloyd; he put me up to it.

A few years before my time at Lancaster & Bros., the store had a large trade in the scientific but dangerous chemical toy called *Eggs of Pharaoh's Serpents.*

The store of Isaac H. Kay where our genial friend Tom Potts was clerk for several years, was located at Eleventh and Arch Streets. Mr. Harry Rittenhouse was a great friend of the firm and often dropped in; the licorice business was young then. Years afterwards when I was chairman of the Library Committee of Kings Co. Pharmaceutical Society, Mr. Rittenhouse, at the suggestion of Professor Maisch, donated to us his annual volumes of the Proceedings A. Ph. A. A steady and notable customer of that old store was old Dr. Geo. B. Wood, who lived a little way up Arch Street. We put up for him often a dozen or more four-ounce bottles of a carbonated draught, about the same as Rhubarb and Soda Mixture, plus a little Lavender Compound, and charged the preparation at the fountain and tied the cork down. The junior partner, Billy Lancaster always did this job.

Professor Parrish's store was located at Eighth and Arch. In my time, Elliott Paxson and Carl Fruh were clerks there and Clemmons Parrish also, who afterward came to Brooklyn. His son Dr. Edward Parrish is practicing medicine there. Both the dental colleges were on opposite corners from our store and we made a variety of tooth powders. Among the friendly medical patrons I recall Dr. John M. Adler, Dr. Edward Schoefield, Dr. Harrison Allen, and one of the earliest women physicians, Dr. Hannah Longshore. Dr. Harrison Allen wrote the handsomest prescriptions I ever saw.

Early in 1871, the Philadelphia College of Pharmacy celebrated its fiftieth anniversary; a feature was an exhibit of implements, books, etc. I recall carrying up as part of our share a copy of the Pharmacopoeia of 1820. One of our class of 1872, was Horatio N. Fraser, who practically created the tablet business. Another was B. T. Fairchild, whom I have for many years regarded as the leading authority on digestive ferments for the English-speaking world. Both of these men are still busy at their appointed tasks. During the academic year 1870–71,

the professors were Robert Bridges (Dean), Edward Parrish and John M. Maisch. All of these men I soon learned to esteem very much, but I soon realized that for the student, who was in earnest, Professor Maisch was his best friend. The summer of 1871 I spent at home, helping in the village store and pegging away at the problems in Roscoe's chemistry and working on my thesis, "The Acids of Tomatoes." The opening of the term 1871–2, if my memory serves me, brought the entry of Professor Remington as assistant to Professor Parrish. During that winter there was installed a beautiful little distillatory and evaporating outfit of polished copper and in the course of several evening lectures, Professor Remington carried on the manufacture of a lot of extract of gentian. I have often wondered what became of that extract.

During the previous winter I had gotten a chum and have him yet. Some of you will remember him, Mr. Joseph Cave. He's English you know. He and I were the pair sometimes called Damon and Pythias by the other boys. Another comrade of the same class and in the same boarding house was John H. Dawson, of Brooklyn, but for many years past in San Francisco and Local Secretary for the A. Ph. A. meeting last year. Like Cave he was red-headed.

In the Spring of '72, soon after graduating, I secured the post of chemist with Benton, Myers and Canfield, of Cleveland, and there William McIntyre found me when he came on for the annual meeting of the American Pharmaceutical Association and put me down as one of the delegates from the Alumni Association to fill a vacancy. At that meeting I learned to know Bedford and Ebert and to improve my fellowship with Remington. During that meeting telegrams arrived announcing the death of Prof. Edward Parrish at Fort Sill, I. T., and of Dr. Henry T. Kiersted, of New York. Prof. Parrish who was one of a Commission named by President Grant to treat with certain Indian tribes was on his way to the place of meeting.

A turn at typhoid fever sent me home from Cleveland and vacated my position. One of our class, Albert C. Curtis, my fellow boarder in Cleveland took me home. He was shot about three years after on a ranch in Wyoming. In June, 1873, I started on the road for French, Richards & Co., of Philadelphia. The next move was to New York on an introduction by Professor Bedford to his successor, Mr. Geo. G. Sands, just opposite the present Hippodrome. It was my privilege one day that summer in response to a line from Prof. Maisch to join him at Frederick Hoffman's store down Sixth Ave. for a chat. During that year, 1874, Henry S. Wellcome came to New York and located at Caswell, Hazard & Co. Later he went on the road for McKesson and Robbins; Wellcome's chief work on the road was to introduce their gelatine coated pills, just then born. Then after a tour of South America, Wellcome and his friend Burroughs, a Wyeth traveler, went to London, and Wellcome's great work in pharmacy since is a proud possession of this Association. He was lately in New York for a day or two, leaving *via* Montreal for Alaska.

In the spring of 1876, I purchased a drug store and in the following September, I captured that Wooster girl I spoke of. I still have both the drug store and the girl. She says if I make any fuss about our fortieth wedding anniversary I will be making her out an old woman.

In that forty years I have had a hand in the "borning" of the King's County

Pharmaceutical Society, the New York State Pharmaceutical Association, the New York Branch of A. Ph. A., and had the great privilege as a representative of King's County Pharmaceutical Association to take part in the making of the National Formulary, first edition, under the guidance of Dr. Charles Rice. Many members of that committee now rest from their labors.

I have done nothing notable but have tried to keep the faith in good pharmacy.

GLYCERIN.

Glycerin was discovered by Scheele in 1789, who called it "the sweet principle of oils." Its value was not recognized for many years, but to-day it is in universal use, not only pharmaceutically as a solvent and preservative, but also for the production of nitroglycerin and explosive compounds. When absorbed by infusorial earth, saw-dust, mica powder or other inert material, nitroglycerin forms the different varieties of dynamite and when combined with gun cotton, it constitutes the explosive known as "blasting gelatin."

The commercial production of glycerin was initiated in this country by Robert Shoemaker, of Robt. Shoemaker and Co., of Philadelphia, in 1846, who obtained it as a by-product in the manufacture of lead plaster; this glycerin, states Dr. S. P. Sadtler (*Jour. Ind. and Eng. Chem.*, December 1916) was exhibited by Prof. William Procter to his class at the Philadelphia College of Pharmacy at the time. Mr. Shoemaker manufactured and marketed glycerin for some years.

As first obtained, glycerin was quite odorous and the late Henry Bower, of Philadelphia (later the Henry Bower Chemical Manufacturing Company), worked out, in 1858–60, a successful method of manufacturing odorless glycerin by purifying the waste liquors obtained in the manufacture of stearin candles, and he marketed it in large quantities.

At the present time, glycerin is made in enormous quantities in a number of American cities, and while its use pharmaceutically is large, its use in the arts is far larger.

Perhaps the largest use of glycerin is for the making of explosive products, such as nitroglycerin, dynamite, etc. The E. I. DuPont de Nemours & Co., of Wilmington, Del., recently state in their catalogue:

"The railroads that span the continent and the Panama Canal that cleaves it were all the products of explosives. The coal that cooks our food, warms our homes and provides power for our factories, railroads, steamships and electric lines is all mined with explosives. This is also true of iron, copper, lead, zinc, silver, gold and other metals. Your modern office building is the child of explosives —dynamite blasted the rock for its deep-seated piers. Dynamite mined the iron ore from which the steel was made. Dynamite quarried the rock of which concrete is formed.

"The farmers of America use almost 25,000,000 pounds of dynamite a year for clearing land, draining swamps, planting trees and breaking impervious subsoils."

And it is inspiring to pharmacists to know that all this was made possible by the work of a Swedish apothecary and the commercial acumen of a Philadelphia apothecary.

J. W. E.

THE HOUSE OF DELEGATES, AMERICAN PHARMACEUTICAL ASSOCIATION

MINUTES OF SECOND SESSION.

The second session of the House of Delegates was called to order by Chairman H. P. Hynson at 4.35 P.M., September 6, 1916, at the Hotel Chalfonte, Atlantic City, N. J.

CHAIRMAN HYNSON: The matter of prescription prices comes officially before the House of Delegates through the authorization of a committee to report upon the subject. I was fortunate in getting Mr. Mason to act as chairman; he has given a great deal of attention to it, and published much regarding it in the *Bulletin of Pharmacy*. I call upon Mr. Mason to present his report on prescription pricing.

H. B. MASON: Mr. Chairman and gentlemen, this is a report of the Committee on Prescription Pricing:

PRESCRIPTION PRICING IN A BAD WAY.*

Prescription pricing is certainly in need of reform.

If the average druggist knew the facts about his own business, he would be surprised to find that prescriptions brought him no profit at all, and in some instances even meant a loss.

This is a somewhat sensational statement, but we believe it to be the truth. Some time ago, for instance, an investigation was made throughout the country with reference to the following prescription:

Potassium Iodide	4 drachms
Syrup Sarsaparilla Compound	3 ounces
Elixir Lactated Pepsin Q. S.	6 ounces

The prices set by a large number of druggists, scattered in States all over the Union, some of them in cities and some of them in the country districts, ranged from fifty cents to a dollar and a half!

Since then the price of potassium iodide has risen greatly. At that time the cost was such that, in accordance with the Evans' rule, which we shall dwell upon later in this report, the prescription should have brought a price of ninety cents to yield a satisfactory measure of profit. With those druggists who set a price in excess of ninety cents we have no quarrel at all, but it remains a somewhat significant fact that 70 percent of them all were ranged below the ninety-cent figure. In other words, only 30 percent of a considerable number of druggists would have made a decent profit on this prescription, whereas in many cases an actual loss would have been suffered.

Much the same condition of things has been found to be true time and time again.

In Detroit, a year or so ago, twenty-five druggists were separately asked what they would get for one fluidounce of a saturated solution of potassium iodide. The prices ranged from fifty cents to a dollar and a quarter. And at the same time the cost of the iodide was about thirty cents an avoirdupois ounce.

And so we might go on citing conditions, only to reach the same conclusion—that there is a great and needless disparity in prices, an utter lack of scientific cost calculation, and frequently an absence of actual profit.

If prescription pricing were to be put on a scientific basis, as it ought to be and might be, prices would be more or less uniform everywhere, and it would not be possible to find such wide differences as are disclosed by every investigation that is undertaken. How can such a scientific system be elaborated?

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* Report of a Special Committee presented at the Atlantic City Meeting of the House of Delegates of the American Pharmaceutical Association.

First let us consider some of the present evils.

Chief among them is the old custom of making a flat price. Many druggists are still following the practice of charging 30 cents, say, for a two-ounce mixture; 40 cents for a three-ounce mixture; and 50 cents for a four-ounce mixture.

This flat-price system is fundamentally wrong. To charge 60 cents uniformly for four ounces of medicine, regardless of greatly varying costs, is little less than absurd. One might as well get 15 cents an ounce for every fluidextract, whether it costs him four cents or forty. He might as well ask a uniform price of twenty cents for every box of stationery whether it costs him ten or sixty.

Then, too, we often find a man who bases his price for a prescription on the size of the dose. For a given mixture he will get a dollar if teaspoonful doses are ordered, and fifty or seventy-five cents if dessert or tablespoonful doses are indicated. There may be cases where this sort of thing is excusable, but not often.

Many druggists, again, are getting no more for prescriptions than they obtained fifteen or twenty years ago. In the meantime conditions have changed radically.

In the first place, the old days when galenicals comprised almost the entire materia medica have largely passed into history. Foreign synthetics and domestic pharmaceutical specialties have come into use—and they usually cost more money. The expense of doing business has greatly risen during the last decade, and we have here a subject which has enlisted the keenest study of economic experts in all the large mercantile establishments throughout the country.

During the last two years, moreover, nearly the entire world has plunged into a great war, resulting in a steady and marked advance in the price of nearly everything. Has the druggist compensated himself for these advances by charging higher prices for his own goods? In many cases we fear that he is failing to do so, especially with prescriptions.

The trouble is two-fold: in the first place, the average druggist has only a vague idea of what it costs him to dispense a particular prescription; and in the second place, he doesn't have nerve enough to charge what he ought. Both faults are fatal.

This ignorance of costs is well nigh universal—not only in the drug business, but everywhere else. The statement was made the other day at a big convention in Philadelphia that 2000 out of 2400 wholesale and manufacturing concerns were found to be losing instead of making money. If larger companies of this kind do not know what it costs them to do business, how can we expect the retailer to be well informed? And yet he has got to be well informed in the future if he is going to avoid economic destruction.

Take, for instance, the comparatively small item of prescription containers. In these days a container frequently costs ten or fifteen cents. A druggist will often put up an ounce of an eye mixture in a dropper bottle, where the bottle itself costs him ten cents, and then ask only twenty-five cents for the product. Some of the ointment jars are now very expensive, but the druggist doesn't stop to think these things out and doesn't realize what his costs are.

The time consumed in dispensing a prescription is often an important factor. An hour's time may be required, and if this labor doesn't return its due profit, the transaction is certainly an undesirable one. The prescription equipment is often ample, and involves a steady loss on the investment that must be adequately compensated if the prescription business is to return its fair yield of profit.

But, as has already been stated, many druggists hesitate to get what they should for their prescriptions out of fear of what their neighbors and competitors will do. With this policy of fear it is difficult to be at all patient. As a matter of fact, the big down-town druggist, who is usually looked upon as one's greatest competitor, gets far better prices for prescriptions than does the small neighborhood apothecary. Of the truth of this statement there isn't any doubt at all.

Furthermore, we have repeatedly found it to be the fact that a man who had the nerve to charge decent prices for his prescriptions would be located right across the street from another druggist who charged little more than half as much, and yet the high-priced man would be walking away with nearly all the business. He had confidence in his goods. He gave prices without any apology. He stood on his dignity. He gave the very best of services, used the finest of containers, and did everything as it should have been done.

There isn't anything at all in this fear of what a competitor will do. It is folly to consider the question. The successful druggist, by virtue of the very fact that he is a success, is a druggist who realizes the necessity of charging decent prices for his prescriptions. Therefore, one need

not fear the competition of any successful or large store. The only druggist who gets low prescription prices is the unsuccessful man—and competition from him isn't really competition at all. It doesn't need to be considered.

Now we come to the point where we may consider the proper method of pricing prescriptions. Many systems have been advocated from time to time, and the National Association of Retail Druggists has adopted a schedule which is to be commended. The only fault we find with this schedule is its complexity. Practically the same result is to be secured by what has become known as the Evans' rule, and this is very simple to remember and very easy to apply.

The Evans' rule is merely this: *Get a profit approximating 100 percent on the cost of the bare material and container, and then charge a dollar an hour for actual time consumed in compounding.*

If every druggist in the United States were at once to adopt this rule, were to apply it universally, and were to base it on a proper knowledge of the actual cost of material and container, he would make a satisfactory profit on his prescription business.

Of course this rule, like every other rule under heaven, should be applied with some discretion. There are exceptions to every rule. There ought to be, for instance, a minimum figure beneath which the druggists should never go. Some of our correspondents have suggested fifty cents as this minimum figure. In other words, they have taken the position that a druggist should never, under any circumstances, dispense a prescription for less than fifty cents. We are inclined to think, however, that this minimum is rather high.

Another exception to the rule should be made in dispensing a proprietary preparation. Here the patient often knows what the product is, and knows the price of it. Furthermore, to put up such a prescription is really not to do any scientific work, or to expend much time and labor, and a large profit is perhaps not excusable. At any rate, it isn't expedient.

Perhaps, too, other exceptions may be made in the case of very inexpensive or very costly mixtures. Some druggists believe that one should be satisfied with a smaller profit where unusually expensive substances are involved, and that compensation may be realized where rain water is present in larger volume. There may be something in this contention, but we are inclined to think that the idea has always been overworked.

It seems to us that prescription pricing ought substantially to be like the pricing of anything else. The price should be based on the cost, plus expenses, plus a reasonable net profit. Any other method is artificial. Any other method is unjust and uncertain. This is the simple rule followed by every capable merchant and manufacturer, in every line of trade, and with every class of goods.

Passing by the Evans' rule, we may say that other methods have been worked out here and there by different druggists. Thus Cornelius Osseward, of Seattle, arrives at the average cost of dispensing every one of his prescriptions. He does it in this way: he takes the entire cost of his prescription department for any one year, including, presumably, every item like rent, light, heat, labor and all the rest of it, excepting the cost of material and container, and then divides this amount by the number of prescriptions dispensed during the same period.

He has found that, in his own case, it costs him an average of fifteen cents to dispense every prescription, and he keeps this amount constantly in mind whenever he fixes a price. He reasons that if he adds fifteen cents to the cost of material and finishing, and then sticks on his net profit, he can't make a mistake. This is all right, except that, as will readily be seen, it is unwise to attach such an average expense to a prescription unless it is, as we might say, an average prescription. For one prescription might involve an expenditure of only five cents, and the very next one an expenditure of fifty cents. Doubtless Mr. Osseward thoroughly understands this and governs himself accordingly.

A good deal of significance attaches to the average price yielded by prescriptions. When taken individually, prescriptions differ widely, but when a large number of them is grouped together, they average up pretty much the same.

We have found that in the case of the larger druggists, who thoroughly understand their costs, and who get good prices, the average price received runs from sixty to sixty-two cents. With the usual druggist, on the other hand, the average is fifty cents or less. Here you find proof of the statement already made in this report, namely, that the ordinary druggist doesn't get as much for his prescriptions as the big dealer does who is supposed to be a cut-rate man.

An investigation made by F. W. Nitardy a year or so ago showed that 10,000 prescriptions, collected from ten different stores, averaged fifty cents each. The average cost of the material and containers was twenty-one cents, and the average expense was eighteen cents. This meant a total cost of thirty-nine cents for a prescription that brought fifty cents. An average net profit was left of only eleven cents.

If, now, the average price of fifty cents were to be increased to sixty cents, the net profit of eleven cents would then become twenty-one cents. In other words, if the druggist could add an average of ten cents to the price of his prescriptions, he would practically double his net profit!

Let us apply the Evans' rule to the situation. The material and container cost twenty-one cents, and by starting with a 100 percent advance on this cost we arrive at forty-two cents. We charge one dollar an hour for labor, and, assuming that the average prescription consumes twelve minutes, we have an item here amounting to twenty cents. We thus arrive at a selling price of sixty-two cents. This, significantly enough, is just about the average reached in the most successful stores, and it would mean a net profit on every prescription of twenty-three cents instead of eleven cents.

Why not use the Evans' rule? It is simple. It is just. Properly and wisely used, it will result in making the prescription business yield its fair measure of profit, and it would put the small druggist on all fours with the big druggist who gets decent prices for his prescriptions.

Signed, HARRY B. MASON,
F. W. R. PERRY.

To the foregoing report Mr. George M. Schettler, a member of the committee, adds the following by way of comment and amplification:

1. Since the advent of war costs, prescriptions priced carefully according to the Evans' rule have increased from an average of 62 cents to an average of 72 cents. This fact constitutes an important qualification of the statements made in the report of the committee.

2. War costs, in a way, are a great blessing to the retail druggist. They have made it necessary for him to advance his prices all along the line, and if he is wise he will keep them up permanently.

3. And yet there is another consideration. How far can prescription prices be carried without diminishing the number of prescriptions written? Probably 75 percent are for patients whose income averages less than $5 daily. The necessary family maintenance consumes nine-tenths of this, and as a rule there is no reserve in the ordinary family treasury for the payment of doctors' bills. Whenever we get an increase in price, therefore, we also help to bring about a diminished consumption.

4. Why should we not get relatively larger prices on inexpensive medicines that are used in minute doses or with great care? Why is not Fowler's Solution worth as much to the patient over the prescription counter as a proprietary solution? Should we not charge as much for one drachm of ointment of yellow oxide of mercury to be used in the eye, as for one ounce to be used on the skin?

5. How much should be charged, in addition to the regular price, for the extra labor necessary on Harrison Law prescriptions?

6. Too many druggists make a rule of cutting under the indicated N. A. R. D. price on repeat prescriptions.

7. If we are to hold our prescription clerks to the task of scientific pricing for their work, it is up to the management to provide them with the means of determining costs quickly and accurately. This involves the marking of all prescription merchandise, the use of up-to-date price lists, etc.

8. That the subject of prescription pricing needs far more study than has so far been given to it, and that many druggists are losing money without knowing it, are facts easily disclosed by a little consideration. A prescription department capable of dispensing one hundred prescriptions daily requires the services of three clerks and one boy. Scientific work such as preparing salvarsan solutions, manufacturing, making analyses, etc., would call for still more help. Labor for such a department would cost $14 a day. Rental at 10 percent, which is a minimum figure in a prescription pharmacy, means $7.50 more. Merchandise will average

$38.50. One hundred prescriptions would bring in $75 approximately. Thus we have a profit left of $15 daily, against which must be charged the cost of administration and such overhead expenses as insurance, taxes, breakage, fuel, light, advertising, telephone, etc., etc. Such a department as is here indicated would find it exceedingly difficult to show a net profit of $10 daily, even with prescriptions priced at the high average of 75 cents.

THE CHAIRMAN: I feel especially grateful to Mr. Mason for preparing this paper and also to his associates, Messrs. Perry and Schettler. I have papers from Mr. Hugh Craig and Mr. F. W. Nitardy on the same subject. What is your pleasure in regard to these papers? While we are very glad indeed to have anyone here who is interested in pharmacy, but as it is a meeting of the House of Delegates, I will ask only those to discuss the disposal of these papers who are regularly appointed delegates. Shall we have these papers read by title and have all the papers published in the proceedings or not? After you decide this, then I will ask you to discuss the paper, if you please. The paper of Mr. Craig, what shall we do with it?

A DELEGATE: I move it be read by title and passed for publication.

THE CHAIRMAN: "Fundamentals of Prescription Prices." If there is no objection it will take that course. Also the paper of Mr. Nitardy, which has the simple title of "Prescription Prices."

THE FUNDAMENTALS OF PRESCRIPTION PRICING.

BY HUGH CRAIG.

In the pricing of prescriptions more than in any other division of his multipartite vocation, the retail druggist clings persistently to rule-of-thumb methods—and it is a left-hand thumb at that. The reason is not to be discovered through theorizing. The result is either a neglect of the prescription end of his business as unprofitable, or—and this is of equally frequent occurrence—the killing of the auriferous goose through stimulated production in the way of excessive charges.

Many sheets of paper and much of your time might be consumed in laying down concrete factors to constitute a mathematical rule for your guidance, to replace the rule of the left-hand thumb. But I am mindful alike of your patience and of the high cost of paper, and I shall but point out the basal factors to be considered in ascertaining a profitable yet nonrepellent selling price, and let you do the calculating for yourselves when you get home to your scribbling paper.

Cost, profit—that is all there is to know in determining the selling price of any article in any line of mercantile endeavor. In the dispensing of prescriptions, as in any other manufacturing operation, the cost is two-fold: there is the cost of material and the operating cost—and each of these has its several sub-factors. Profit, in the dispensing field, is also to be looked upon as two-fold: mercantile and professional. To figure profit is a simple matter; to ascertain cost is "another thing, yet, Maurice." Let's tackle it.

There is nothing difficult for the pharmacist who is a merchant—and faith, he needs be—in ascertaining the cost of every item, as laid down in his store. The cost of the same article, as passed over his counter, and the cost of articles of store manufacture are more difficult to determine; and their determination is essential to real business method. They are the cost that is two-fold; they embrace that comprehensive item of expense, operating cost. Operating cost is, in turn, two-fold. It embraces that bogeyman of the efficiency expert, that *bete noir* of the rule-of-thumb man, popularly referred to as "Old Man Overhead;" its other factor is time cost.

To ascertain the total of such items as rent, lighting and heating costs, taxes, publicity costs, depreciation, interest, and so on, which constitute overhead, for a given term and to calculate this total as percentage of the gross receipts for that term is not a difficult operation. But the percentage factor thus obtained must not be accepted as common for all divisions of the business. So to accept it is to court bankruptcy in these days of close competition. It is absolutely necessary that the overhead factor for each line be calculated separately; and time cost in any division is not properly a part of overhead; furthermore, it must be based on a separate facto for each employee.

The calculation of the overhead factor for the prescription department differs only in detail from the calculation of the same factor for any other division of the business, or for the whole business. Its difference lies chiefly in allowing sufficient for depreciation, which, obviously, must include breakage. The proportion of lighting and heating costs, rent, interest on investment, taxes, and so on, to be charged against the prescription department is readily ascertained. Naturally the overhead factor is calculated as a percentage of the gross receipts of the department; it should be transposed into the equivalent percentage of delivery or production cost or inventory valuation, so that it may be more readily applied in any particular compounding operation. As this paper deals with prescription pricing, it is not to be expected to go into detail regarding the calculation of the cost of prescription material manufactured in the store. This cost must, of course, embrace the delivery cost of the original components of the manufactured article, the time cost of manufacturing, the overhead factor for the manufacturing department, and the manufacturing profit, which is usually figured at the prevailing rate of interest.

Time cost, the other sub-factor in operating cost, is not difficult to ascertain; but it is frequently miscalculated. Time cost in prescription compounding should be actual. Now, I can anticipate the objection: But where does the compensation for the professional attainments of the pharmacist come in? I am coming to that; it is not a part of the time cost, but a part of the profit, as hereinbefore mentioned. In saying that time cost should be actual, I do not mean that if you pay an employee $28 a week of seventy hours, which is the equivalent of forty cents an hour, the time cost of a prescription requiring fifteen minutes to compound should be ten cents. It is necessary, in calculating actual time cost in the pharmacy of the usual sort, to add at least fifty percent to the mathematical time cost to cover idle moments and time spent in tasks not directly profitable, such as replenishing stock containers, arranging stock, and so on. Actual time cost is really "time and a half," unless the clerk is continuously employed in prescription work. Time cost in the prescription department will respond readily to a bit of speed-up efficiency.

The cost, that is, the production cost, of a prescription will, therefore, represent the delivery or production cost or the inventory valuation of the ingredients, plus overhead, plus time cost—don't figure overhead on time cost. To ascertain the proper selling price it is necessary to add to the production cost (1) the desired net mercantile profit, which should be common for the whole business; (2) the selling price of the container—don't overdo the making of profit on containers; and (3) the charge for professional service. This last item calls into consideration the nature of the service and the financial ability of the patient. Upon these two factors is based the charge for professional service made by the honorable follower of any profession; they are the only logical bases for such charge. The existing, albeit not now so prevalent, practice of taking advantage of the nature of the need of an unfortunate patient savors too much of the quack and the shyster to be countenanced among honorable pharmacists. One can not always reckon the financial ability of the patient with exactness, but the errors will usually counterbalance. Leave retaliation in prescription charges to the penny-a-line jokesmith. It scarcely needs be explained that by the nature of the service is meant the sort and degree of pharmacal ability required in the particular operation. A solution for intravenous use, for instance, is worth more to prepare than a liniment of the same volume.

Let it be understood that it is not necessary to perform all the calculation of time cost and overhead for each compounding operation; average operating costs for various volumes of mixtures, eye lotions, liniments, batches of pills, capsules, powders, or suppositories, and so on, should be calculated. They will be a bit high for some, low for others; but calculate them; don't guess. Professional service in ordinary prescription work may be calculated on the basis of time.

Permit me to digress for a moment to mention briefly two factors that, in actual practice, have a considerable influence upon the pricing of prescriptions: one is the quality of materials; the other, the purpose of the pharmacist (the proprietor of the store). Of quality little need be said; there is but one quality worthy of consideration in the prescription department: the best. But the purpose of the pharmacist is not to be dismissed so readily; it is a most important factor; and it is responsible for not a little of the falling off in the prescription business. The purpose of the pharmacist, with reference to the prescription department, is either a real prescription business or large profits from such prescription work as may come his way; the two are not compatible. Considered with the first purpose, prescription charges will not be such as to drive

patients to dispensing doctors or to self-medication. That such driving is of frequent occurrence cannot be denied; it usually obtains as a result of the second purpose hereinbefore referred to, because such a purpose is usually coupled with a tendency to devote the display facilities of the store to the featuring of ready-to-take medicaments, generally offered at a cut price.

An acquaintance of the writer last spring had an attack of laryngitis. He is not a believer in self-medication, although educated in pharmacy and medicine; neither is he so totally antagonistic to proprietary medicines as to go to a doctor when in need of a simple laxative or an application for sunburn. One of the prescriptions given to this patient on the aforementioned occasion called for one ounce of compound tincture of benzoin, to be used a teaspoonful at a time, as an inhalant, vaporized from boiling water. The patient knew what the prescription called for; the pharmacist to whom he took it for compounding knew that he knew—and charged him thirty-five cents for the medicine. In the main window of that pharmacist's store at that time was displayed a proprietary throat lozenge, offered at the enticing price of two boxes for the price of one plus one cent. Can you, or I, blame that patient for feeling that there is a bit of hold-up in the pricing of prescriptions? If that pharmacist charged thirty-five cents when he knew that the patient knew that the same medicine could be bought at the counter for ten cents, what would he charge a patient ignorant of the nature of the medicine? Doubtless, at least enough to convert a prescription customer into a purchaser of two boxes of a twenty-five-cent lozenge for twenty-six cents. Perhaps that is his purpose.

Verily, the purpose of the pharmacist has a great deal to do with his pricing of prescriptions —and with the volume of his prescription trade, also.

The chairman has asked that I explain the N. A. R. D. prescription-pricing schedule. As it is such a simple scheme, I shall be content with having copies distributed, and with the statement that, as I have had nothing to do with the preparation of this schedule—it antedates my connection with the National Association of Retail Druggists—it does not follow in detail the scheme outlined in this paper, and I, personally, consider it not sufficiently elastic and somewhat overproductive when applied to prescriptions of the everyday sort.

Cost of ingredients, plus overhead expense, plus time cost, plus net profit, plus the price of the container, plus professional remuneration, equals the selling price of the prescription; that's all there is to it. When the six component factors are properly determined, it will be found that there need be no foundation for the popular myths relative to the apothecary's profits, and still prescription work will pay better than one-cent sales—and it will increase.

PRESCRIPTION PRICING.

BY F. W. NITARDY.

In considering the subject of pricing prescriptions let us first consider the prescription itself and see at what point it may be considered salable drug store merchandise. If you should obtain an order from one of your customers for a compound or mixture of a nature that you would not care to prepare yourself but would turn the work over to a pharmaceutical manufacturing house to prepare for you, and assuming that this house charged you $1.00 for the finished article, how would you arrive at a selling price for this mixture? I assume that this selling price would be arrived at in the same manner that you use in arriving at selling prices for any merchandise in your stock. You know that it costs you a certain amount to do business and that, in order to make a profit, your selling price must be sufficiently above the cost, plus the expense of doing business to leave the net profit desired. Expense of doing business varies according to the kind of a store you are running. If you are running a city store it will probably cost you from 30 to 35 cents to sell a dollar's worth of goods. If you are running a country store, paying a low rent and are getting full prices for everything, it is possible that your cost of doing business will be slightly below 30 cents on the dollar.

Let us take 30 percent on selling price or 50 percent on cost as a liberal average for the purpose of this paper. Going back to the preparation made for you by the pharmaceutical manufacturer, costing you $1.00, this product should be sold at $1.66 to yield what is considered the ideal net merchandising profit of 10 percent, the cost of your article representing 60 percent, the cost of doing business 30 percent, and the net profit 10 percent of the selling price.

A prescription does not represent a salable piece of merchandise until compounded and ready to leave your prescription department; it is then the same as any finished product prepared by or bought of any manufacturer or jobber, and the cost of a prescription to the point to where

it is ready to be delivered to the customer should be calculated as its cost on which its retail price should be based. This cost does not include the general merchandise overhead that exists in every store. There is no less trouble or risk connected with the delivery of a finished prescription to your customer than with the selling of a proprietary medicine, a quantity of some crude drug, a household remedy or any other merchandise. Therefore, the same general overhead that applies to your merchandise business in general applies to the finished prescription, when it is ready to leave your prescription department.

With this idea in mind the Colorado Pharmacal Association in the spring of 1915 took steps to investigate the cost of prescriptions and the price received for them by asking the following questions of its members:

Have you ever taken the time to calculate the average cost of prescriptions and the average price received? Can you give us figures giving:

A—Cost of material used in filling 1000 consecutive prescriptions?

B—Estimate number of hours required to fill them?

C—Cost of containers, labels and other incidentals necessary?

D—Estimate of overhead expense, including clerk hire, such as light, rent, heat, telephone, insurance, interests, taxes, etc., on your *Prescription Department* for the period covering the number of days in which you will fill 1000 prescriptions?

E—The price received for the same one thousand prescriptions?

Answers to these questions which were received from ten different sources, showed that the profit on prescriptions was not what it was generally supposed to be.

Feeling that more work along this line should be done, the same questions were asked this year of the members of the Colorado Pharmacal Association. Among the answers received was one by a man who had given very carefully prepared figures in 1915 and who, for the sake of comparison, prepared an answer covering the same period in 1916 as was used last year in compiling his figures with the following results:

1000 consecutive prescriptions.	1915.	1916.
Cost of material	165.01	193.13
Cost of labor	100.00	100.00
Cost of containers	23.36	25.89
Prescription department overhead	66.43	66.43
Total	354.80	385.45
Price received	511.00	530.56
Less cost	354.80	385.45
Gross profit	156.20	145.11

The figures given above are very close to the average figures that were received and are used in this instance because of their accuracy. They were prepared in a residence district store of Denver, a store which might be considered a representative city drug store.

Now let us consider for a moment what price a prescription should bring. If the sum of the cost of the ingredients, container, overhead expense and time for compounding is considered the cost to the store of the finished prescription, then we must add to this cost that of doing business, that is, the general merchandising overhead which takes care of the expense of the front of the store, deliveries, losses through bad accounts, cost of time of such clerks as wait on the customer in taking in the prescription and handing him the finished article, etc. Further, we must add the fee to which we are entitled as professional men for the service rendered in filling a prescription and such additional amount as to show the percentage of net profit that should accrue from a transaction of this nature.

Now let us see how near in the figures above referred to, the actual price received for prescriptions comes to the price that should have been received. Assuming that your selling price of a prescription consisting of 100 percent should be composed of a net profit of 10 percent, a professional fee of 10 percent, a merchandise overhead of 30 percent and cost of the finished prescription of 50 percent, then a prescription costing $38\frac{1}{2}$ cents when finished by your prescription department should retail for 77 cents, which would be divided as follows:

Cost	$0.385	50 percent
Expense of doing business	0.227	30 percent
Service fee	0.079	10 percent
Net profit	0.079	10 percent
Total	$0.770	100 percent

This would represent a fair retail price for a prescription costing 38½ cents, and one that could readily be obtained by all pharmacists for the asking. It would stand public investigation and criticism, for on this basis the average prescription would bring 75 to 80 cents, which would mean a combined net profit and professional fee of 15 to 16 cents to which no fair-minded person would object. It is probable that prescriptions involving very expensive materials could not be made to show a profit quite up to the one just mentioned, but it is equally true that there would be other prescriptions involving very cheap materials that could show a little larger profit to offset the former so that the average showing would still remain in harmony with the figures given. That such a profit is reasonable, I think will be acknowledged by everyone, for on this basis you would be running your prescription department as an accommodation department to your store, without any profit for that department as such. You would show a net profit of 10 percent and a professional service fee of 10 percent over and above the actual cost of delivering this service. In the trades a profit of 15 percent and more is charged on any labor furnished aside from a profit charged on materials furnished and I doubt if you can find any professional service rendered as cheap as the one proposed in this instance.

What would it mean to you if you could readjust your charges so as to obtain a price based on these principles? Would you have any objection to charging on this basis, if you were sure your competitors were doing the same? I believe not. How can we bring about a condition then of prescription pricing that will bring the desired results and one that would be comparatively uniform throughout the country?

Before attempting to correct any condition that is wrong, it is quite necessary to diagnose or analyze the condition so that we may know wherein the trouble lies.

Probably the greatest factor in the incorrect pricing of prescriptions at the present time is the misinformation under which a great many druggists are working. Comparatively few have figures available which would give them a fairly accurate idea of the amount of money invested in their prescription department, the amount of overhead this department requires, the cost of ingredients, labor and containers, all of which form a part of the cost of the prescription and without knowing its final cost, they can not intelligently arrive at a selling price fair to themselves and the public. I venture to say that not one druggist in a hundred could answer the questions asked in the investigation conducted by the Colorado Pharmacal Association from information at his command. Not only that, but quite a number believe they can guess at the cost of a prescription, but little do they realize how far from the actual facts they are guessing. The information obtained in the Colorado investigation surprised each individual who took active part as well as the general membership. Mr. Clark, who wrote the paper referred to in the beginning of this paper, was surprised to find that his profit on prescriptions in 1916 was less than in 1915, when he had made a decided effort to obtain, and thought he had obtained, about 10 cents more gross profit per prescription in 1916 than in 1915 on account of the information gained from the first investigation.

Another great factor responsible for the prevailing conditions is the miscalculation of profits on this line of work. It seems that a great many druggists will roughly estimate the cost of ingredients in a prescription and base their selling price on this cost, without taking into consideration the amount of time required to compound the prescription or the overhead expense connected therewith. The time of the person compounding a prescription has a definite value and means a definite cost to the store. The prescription department creates a definite overhead that could be eliminated from the expense of the store if no prescriptions were filled, and these costs form part of the final cost of the prescription. Every druggist knows that he can not buy a show case for what the plate glass, etc., in it costs, or a soda fountain for what the marble, onyx, tin, etc., are worth in the crude state, and it is equally wrong to consider the cost of the ingredients of a prescription as cost of the finished product.

There was a time, no doubt, when prescriptions brought the price they should bring, but

such is not the case to-day. Many druggists are still charging the same price for the average 4-ounce mixture, 2-dozen pills, tablets or powders that they did twenty years ago, notwithstanding the fact that there has been an ever-increasing cost of doing business and many changes in the cost of materials. We pay larger salaries, more rent, have more elaborate equipment, require a larger amount of stock and have more losses to-day than ever before, but we have not made corresponding increases in our retail prices of prescriptions.

There is but one way in which we can correct these conditions, and that is by a thorough educational campaign based on careful investigation of actual conditions. If the pharmacists of the country are shown in a convincing manner where they are losing money daily on account of habits acquired many years ago in the pricing of prescriptions and that it is necessary for them to adopt a business-like system of pricing prescriptions instead of the old-fashioned method of basing the price on the amount or size of the bottle dispensed, they will no doubt be willing to correct their methods.

The argument sometimes put up, that raising the price will drive away business, has been proven false, for all of us have had to charge much more for certain drugs in the last year or two than we have ever before had occasion to charge, and I believe you will all agree that, while there probably was some necessity for explanation at times, the public as a whole stood for the raise in prices with very little complaint, so little in fact that all of us were surprised.

There is no reason why the pharmacist should not make a reasonable profit on his service, and while the public likes to buy as cheaply as possible, it is nevertheless willing to pay a fair price for honest service and it only remains for the pharmacists to charge the fair price. One thing is certain, the public will never come to him and say, "You are not charging enough for your service, here is an extra quarter for that prescription." If you want the extra quarter you will have to ask for it and you will be surprised how easy it will be obtained.

I hope that we shall be able to interest every local, state and national association in this work and that we shall take the lead in actively and thoroughly investigating present conditions. As soon as reliable and representative information is at hand it will be possible to formulate a set of principles on which the pricing of prescriptions should be based. It will not be a simple task. In fact, it is a task too difficult to be solved off-hand or to be solved by any one person but it should have the attention of a representative and capable committee and their report should then be given to the drug trade with the statistics, reasons of its adoption, etc., to form a guide for state and local associations as well as individuals, in their effort to price prescriptions correctly.

Now that these papers are disposed of I would be very glad to have anyone present, whether delegate or not, discuss this paper of Mr. Mason.

H. B. SMITH: I would be very glad to know, Mr. President, if the so-called excessive prices, and what appears to be minimum prices, were confined to any particular section of the country.

H. B. MASON: No, you couldn't work out any geographic theory.

R. P. FISCHELIS: Mr. Chairman, I am truly glad to have Mr. Mason read the paper and to bring out the points he did, showing that there is much criticism of pharmacists for the charges made for prescriptions. As a matter of fact, I believe according to the Evans' system, which Mr. Mason suggested, the prices would be even less than the estimated prices to which I called attention. I agree with Mr. Mason that there ought to be some systematic way of pricing prescriptions just the same as for anything else in the drug store.

E. G. FINE: Regarding one statement Mr. Mason made use of in his paper on prices. I happened to be present in the Colorado Pharmaceutical Association a little while ago, when a paper was read by one of our leading druggists, Mr. L. W. Clark of Denver. Mr. Clark with a great deal of patience went through one thousand of his prescriptions, and the result of the showing made us all dig back in our old prescriptions and sit up and take notice, with the result that every druggist

in Colorado, at least those who were present at that meeting, were asked to raise the standard of prices of their prescriptions, generally. It is an eye-opener to all of us who thought we were getting good prices for our prescriptions, averaging about fifty-five cents.

THE CHAIRMAN: It was because of that action in Colorado that this subject was brought up in this way; the House of Delegates was asked to take it up. Would the House of Delegates like to endorse Mr. Mason's suggestions? Some one make the motion that we endorse the Evans' rule and thereby give it the endorsement of the House of Delegates of the American Pharmaceutical Association?

OTTO F. CLAUS: Mr. Chairman, I take pleasure in making such a motion.

R. P. FISCHELIS: I second the motion.

N. P. HANSEN: Some of the larger drug firms have, as I understand it, two scales, one for what they call an ordinary prescription and one for an extraordinary prescription. For instance, take two grains of zinc sulphate and a pint of water. The cost of that would not be five cents; you must have a rule for quantity. Some of the larger firms charge at least ten cents an ounce, for what they call an ordinary prescription, and grade it in that way, and don't grade according to the actual cost. An extraordinary prescription they fill according to the Evans' rule, but an ordinary prescription could not be priced in that way. Two grains of zinc sulphate and a pint of water; you know what it is for and wouldn't want to dispense it for twenty-five cents. Ordinarily you would charge sixty-five or seventy-five cents for it.

H. B. MASON: That point was covered in this report, in "exceptions to that rule," and the point was brought out that there should be a minimum price below which you should not go.

(Motion put before the House and carried.)

THE CHAIRMAN: The House of Delegates will now come to order. I call for a report of the Committee on Credentials.

REPORT OF COMMITTEE ON CREDENTIALS.*

SEPTEMBER 6, 1916.

Your Committee on Credentials respectfully reports that it has carefully examined the lists of delegates given us by Gen. Sec'y Wm. B. Day and finds the following organizations duly represented:

State Associations	34
Colleges of Pharmacy	34
Local A. Ph. A. Branches	9
National and City Organizations	7
U. S. Departments	6
Alumni Associations	5
Total	95

Your committee recommends that through the medium of the JOURNAL a notice be given to the various organizations entitled to representation, calling attention to that section of the by-laws, which permits a delegate to represent one organization only.

Signed, ROBT. S. LEHMAN,
JOSEPH WEINSTEIN,
OTTO F. CLAUS, Chairman.

* The report of the names of these delegates was made by Secretary William B. Day and therefore not repeated.

THE CHAIRMAN: You have heard the report of the Committee which includes a double recommendation. What is your pleasure in this regard?

MR. HANSEN: I move the report be received and Committee discharged.

(This motion was seconded by Mr. Hostmann, put before the House and carried.)

THE CHAIRMAN: We have with us Dr. Alfred R. L. Dohme, who represents the Association of Manufacturers of Medicinal Products, and I am sure we will be glad to hear from Dr. Dohme.

A. R. L. DOHME: Mr. Chairman and gentlemen, I am delighted to have the privilege of being with you at this meeting representing the National Association of Manufacturers of Medicinal Products. As you know, this organization has been in existence only five years and it owes its existence, practically to some suggestions that were made in this parent body, the American Pharmaceutical Association. Although we realized that we had the privileges of the floor here and we exercised those privileges whenever the occasion demanded, at the same time there were conditions arising in our own line of business as the result, principally, of the inception of the Pure Food and Drugs Law, and all that followed after it, that indicated the necessity for our meeting together and having more time for the consideration of the problems that were confronting us, than could be given at a meeting of another association, and for that reason this new association sprung into existence. We have found it to be desirable and helpful, not only to ourselves, but to meet the growing troubles of legislation and regulation, by the government, of our products, and we have come to the conclusion that it has been of a great benefit to members of your association—the retail druggists of the country—because being compelled to watch at the fountain heads of all legislation of the country, whether in the states or at Washington, we have succeeded, in your interest as well as in our own, in preventing the enactment of a great many laws that were either ill-advised because the persons who drew them did not know what they were talking about, or because they had been suggested to a legislator by someone, in his own interest. This person, not knowing what the bearing of this particular law was, did not hesitate to press it and it would have gone through in many cases. We found many of these laws were the result of such ill-advised action on the part of the man who does not know what he is talking about. Others we find are a scheme put up by which an interested party tries to get through a law under a false name or under a false heading or a misleading heading, but which in another part of the law would have a clause that would be very unpleasant for the retail, the manufacturing or wholesale trade.

In addition to this protecting feature which this association has brought about and which, of course, benefits the retailer as much as it does the manufacturer, we stand behind anything that we sell, and in doing so, of course, we stand absolutely behind the retailer. So that any retailer who is handling any of our products and should get into the hands of the law by virtue of the excessive zeal on the part of government agents or state agents, may rest assured that his interests are protected in every way by the action of this association.

I want to congratulate you, Mr. Chairman, and gentlemen of the American Pharmaceutical Association, upon the broad view which your association has always taken in pharmacy. I believe that the time will come when we will be called upon more than we are now, to band together or band our interests together in some common action, whether it be in defense of our rights or in defense of our calling or profession, rather than have the associations split themselves up into smaller units. The tendency in the future should be to increase or centralize more strongly the power and influence and weight of these organizations, and as has been well said by your Chairman on previous occasions, and probably on this occasion, there is no body of pharmacists that better represents all these interests than this particular body, the American Pharmaceutical Association, and I therefore

trust that the principles which were laid down by the founders, away back sixty-four years ago, along these lines may not only be continued, but that the tendency to draw the other organizations more closely to you may grow in the future rather than diminish.

I am also pleased to note that the attendance at this meeting is good, from all the different branches of the trade, and I hope that future meetings will show the realization of the hope that was expressed this morning at one of the meetings, that our membership might increase twofold or threefold, and the suggestion was made at that meeting that this should be done from the pupils of the schools of pharmacy. I would suggest along the line indicated by the Secretary of your association, and also by your Chairman that this can be done from all the organizations, that the wholesale druggists should be induced to become members of this association to a larger extent than they are at present, and that the manufacturers and their individual representatives should become connected with this organization. I think that if you take the pupils in the colleges, take the retailers themselves, take the pharmaceutical chemists, take the manufacturing pharmacists or manufacturing chemists, you have a source for membership which, if you can bring out more prominently than you do now, the importance of banding together for protection in the future, it seems to me that there ought to be no trouble within the next five years of making this membership instead of twenty-five hundred, at least five thousand, if not seventy-five hundred, and I certainly hope that that will be the case. Thank you, Mr. Chairman, for the privilege of addressing you. (Applause.)

THE CHAIRMAN: For the information of the delegates I may state that Dr. Dohme as, representing the National Association of Manufacturers of Medicinal Products, was referred to this House of Delegates instead of being received in general session as he should have been.

I hope you will excuse me for any informality that occurred yesterday. The Secretary has called my attention to the fact that neither his able report, nor my very bad one, were regularly received. Will someone make a motion that these be received?

OTTO F. CLAUS: I make that motion.

(This motion was seconded by N. P. Hansen and carried.)

THE CHAIRMAN: We will have a report from the committee that was appointed yesterday to consider the general welfare of the House of Delegates. We will call upon Dr. Rusby, who has very kindly agreed to present this report.

DR. RUSBY: Mr. Chairman and gentlemen: I was not the chairman of this meeting, but Dr. Hynson, who was the chairman, has asked me to present this report.

REPORT OF COMMITTEE TO STUDY THE PROPOSED CHANGES IN CONSTITUTION OF HOUSE OF DELEGATES.

Your committee met this morning at 8.30 and again this afternoon. We have found so many important considerations involved in the pending resolutions that we are not willing to offer any general recommendations on the subject.

At the same time, we have agreed upon the desirability of certain measures, which we shall recommend.

We heartily endorse the chairman's opinion that the State associations, as such, should have a representation in this Association. Such associations do at present have the right to send delegates to this Association, who have the privileges of the floor, but the delegations, as representing their associations do not have a vote in determining the proceedings. It seems to us very logical and consistent that the state associations, as units, should possess membership in this Association, and should so participate in the proceedings, either through the general sessions, or through those of the House of Delegates.

We see important reasons why this should be done and we see very important benefits of such a plan, both to the state associations and to this body. We believe that there are many thousands of members of the state associations who are not members of this Association, and who for that reason take no interest in our affairs. To make their associations members of this body, with voting powers, would be the first step toward interesting them individually. It seems perfectly feasible to supply to members of state associations which are thus members of this body, the publications of the A. Ph. A., for say, $3.00 in addition to the $2.00 paid to their own association. We believe that the recipt of these publications would become the strongest possible incentive leading to their becoming full members. We believe, moreover, that this would go a long way toward bringing about uniformity in regard to legislation, especially affecting the prerequisite law and license laws.

We therefore recommend that the necessary legislation should be enacted to make state pharmaceutical associations members of this House of Delegates, giving to each association respresented at our meetings a single vote.

We believe and recommend that the same action should be taken with regard to the associations of the District of Columbia and other territories, and to those of foreign states of the American continent.

We believe that this House of Delegates should meet for the discussion of such business as may be referred to it by the A. Ph. A. and of such other affairs as they desire to discuss, previous to the meetings of this Association, and at the same time and place as the meetings of the A. C. P. F. and the N. A. B. P. in order that its discussions may be deliberate and thorough.

We are inclined to think, though we make no specific recommendation at this time, that the following things should be done:

1. That the local branches should not have voting powers in this House of Delegates and at the same time a representation on the Council. We direct particular attention to the fact that every member of a local branch is a member of this Association, so that these branches are not in the same need of representation as are the state associations.

2. That local associations should not possess voting powers here. It is due the state associations that they should possess a full representation of all local associations and that it is through those state associations that they should have representation here, and not independently.

3. That the same view should be taken of pharmacy schools, all of which, moreover, possess representation in the Section on Education and Legislation.

4. That such national associations as the N. A. R. D., N. A. W. D., N. A. M. P. should not have voting powers, although it would be well for them to have representation, in this Association. Their position is quite different from that of the other bodies already mentioned. First, they are bodies coördinate with ourselves. We are all members of the Drug Conference, where we have an equal footing. This Association has no voting powers with those bodies, and there is no good reason why they should do so in a house of delegates such as ours.

Signed,

H. H. RUSBY, Chairman.
N. P. HANSEN,
L. A. SELTZER,
JEANNOT HOSTMANN,
H. P. HYNSON.

N. P. HANSEN: I move the adoption of the report.

(Motion seconded.)

THE CHAIRMAN: It has been moved that this report be adopted as the sense of the House at this time, and I think that might be followed by the continuance of the committee with instructions to draft such amendments to the By-Laws as will put these suggestions in effect. Does any one want to discuss this report? If not, I will put the question.

(Question put before the House and carried.)

MR. HOSTMANN: Mr. Chairman, I would like to move that, before reading any resolutions, the Chairman appoint a nominating committee to report at the

Friday morning session. It is absolutely necessary that that committee be appointed some time this evening. I therefore move you that the Chair appoint a nominating committee.

(This motion was seconded, put before the House and carried.)

SECRETARY HOSTMANN: Mr. Chairman, to be able to act upon these resolutions properly on Friday morning they either should be read in toto or read by title, and if I may be allowed I will skim over them. One resolution is: "Resolved, that a committee of five be appointed by the chairman of the House of Delegates to consider and report on the functions of the House, said report to be rendered at the session of the House of Delegates in 1917."

Second resolution is: "Resolved, that the House of Delegates recommends the adoption of the following amendment to the By-Laws of the Association, said amendment having been referred to it by the Second General Session of the Association." That amendment was the one I submitted this morning to the general session which reads: "Amend the By-Laws as follows: "There shall be and hereby is created a House of Delegates to have and exercise such functions as may be hereafter specified by the Association."

The reason for that is this: We are fighting away and are spending our time trying to find out what we ought to do, and after we do decide on something, if the Council sees fit, it can pass a resolution cleaning up the House of Delegates. These resolutions we will act on and will go to the Council on Friday morning, and if the Council sees fit to adopt our recommendation, then the House of Delegates will be created in a By-Law and will become a permanent body of the organization. If the Council refuses to adopt our recommendation, we have a chance to present this amendment at the last general session. In that way we will at least accomplish this; we know, positively, that the House of Delegates will be in existence at the next annual session. Otherwise these committees that are going to work all this year, when they come along next year they will find out there is no such thing as the House of Delegates.

There are some resolutions that have been referred to us by the Association. One on the status of the pharmacists in the government service; that is, in the Hygienic Service, and one from the Committee on Weights and Measures, which is very short: "Resolved, that this Association approve the idea of a conference to be held in New York during December and authorize its Committee on Weights and Measures to participate in such a conference.

"Resolved, that the Association express the hope that the National Wholesale Druggists' Association will also appoint a committee to take part in the proposed conference," its object being to adopt the metric system.

Another resolution that has been referred to the House of Delegates has to do with the fund that is being raised for the Procter Memorial, and the last resolution is one that has been sent in from the Wisconsin Association which is of more than passing importance. This comes through General Secretary Day.

Those are the resolutions that we will have to act on on Friday morning, and as there will be no other session we ought to have a good attendance. Just as soon as the House of Delegates adjourns the Secretary is supposed to take these resolutions that have been adopted by the House of Delegates and present them to the Council, which will then be in session, and if we are going to do anything at all we ought to be prompt on Friday morning.

H. H. RUSBY: Mr. Chairman, I would like to know about that last resolution.

MR. HOSTMANN: That should be acted upon Friday morning.

H. H. RUSBY: That being such an important resolution, I would suggest it be read again.

THE CHAIRMAN: I may say that the resolution is on the program which I sent out to each delegate. If anyone is interested they will find it in that paper.

C. M. SNOW: Mr. Chairman, may I suggest that what Professor Hostmann has introduced has been taken care of, I believe, or was taken care of at Denver. I think the House of Delegates exists by virtue of having been endorsed at a general session of the Association. I certainly recall serving on the Committee of Constitution and By-Laws and the work of the House of Delegates was certainly referred to the Council at that time. Otherwise we wouldn't at present be in session.

THE CHAIRMAN: But there is no By-Law of the Association providing for the House of Delegates.

C. M. SNOW: I think you will find it in the minutes of the proceedings.

JEANNOT HOSTMANN: Exactly, Professor Snow, that is the way it was created, and if the Council sees fit, or if anybody introduces a resolution in the Council it can wipe out the House. It was created by resolution and can be wiped out by resolution. It is to be created by By-Law, and if it is created by By-Law the only way it can be discontinued is by an amendment of the By-Laws.

C. M. SNOW: I believe the same motion was introduced last year.

SECRETARY HOSTMANN: I looked into that very carefully, and I had it out with some of the parliamentarians. Mr. England took the same position you did, and when we looked in the By-Laws nothing was said, until you came to the By-Laws of the House of Delegates.

THE CHAIRMAN: I would like to announce as members of the Nomination Committee: Professor H. V. Arny, Charles H. Skinner of Vermont, and Professor R. P. Fischelis of Pennsylvania.

THE CHAIRMAN: Mr. Hostmann, will you act as Chairman just for a moment?

(Mr. Hostmann takes the chair.)

H. P. HYNSON: I move that the committee which has made a report this afternoon be continued and that it be requested to bring in such amendment to the By-Laws as will put in action the report which has been adopted, and submit the amendments Friday.

(This motion was seconded by N. P. Hansen.)

CHAIRMAN HOSTMANN: It has been moved and seconded that the very able committee that reported on the House of Delegates be continued and report at the final session on the functions of the House of Delegates.

H. P. HYNSON: I didn't make it functions; bring in a report making such amendments in the Constitution and By-Laws as will put in effect the recommendations made by that committee.

CHAIRMAN HOSTMANN: I think it is practically the same thing, because these recommendations can't be acted on this year. What are these amendments going to do, but define the functions and purpose of the House?

H. P. HYNSON: You have a resolution about functions. That is a very different thing. I want the motion put: That the committee which reported here this afternoon be authorized and requested to bring in such amendments to the By-Laws as will put into effect the recommendations which have been adopted.

(Motion put before the House and carried.)

CHAIRMAN HOSTMANN: Of course you understand, as I said before, that these amendments could not be presented until the next annual meeting.

H. P. HYNSON: They can be presented and acted on at the next annual meeting.

MR. HANSEN: Is it not practical to introduce them a year before so as to look them over and see what they are?

H. P. HYNSON: Mr. Chairman, at this session I move that all of Chapter 2 of the By-Laws of this House of Delegates after the word "From," in line three, be stricken out and the words "State Associations" substituted. I do this simply to get it in form for action if we desire to do so. It will read: "That the membership of the House of Delegates shall consist of three regularly elected or appointed delegates from the several State Associations."

H. H. RUSBY: I would say from each State Association.

H. P. HYNSON: Each State Association. That can be amended on Friday. I make the motion that we may act on it Friday if we see fit. I do not want to push the matter through, but wish to put ourselves in a position to act on this if we so desire.

CHAIRMAN HOSTMANN: Gentlemen, do not get this confused. The last amendment applies to the By-Laws of the House of Delegates, with which the Council has nothing to do. We may act upon that on Friday morning. You have heard the amendment. If there are no objections it will take the usual course and we will take it up on Friday morning.

On motion duly made, seconded and carried, the meeting then adjourned until Friday morning at eleven o'clock.

GOLDEN RULE OF GOVERNMENT

"Everywhere in America are clamant and strident voices, proclaiming the essential elements of patriotism. He who seeks out of them all to select one clear note of love for country may fail. I conceive it to be far more important to examine myself than to cross-examine another. May I make bold to insert in the *Record* some elements of the creed which I have adopted in this period of retrospection and introspection? It does not embrace what I know, but holds part of what I believe.

"I believe that the world, now advancing and now retreating, is nevertheless moving forward to a far-off divine event wherein the tongues of Babel will again be blended in the language of a common brotherhood; and I believe that I can reach the highest ideal of my tradition and my lineage as an American—as a man, as a citizen, and as a public official—when I judge my fellow-men without malice and with charity, when I worry more about my own motives and conduct and less about the motives and conduct of others. The time I am liable to be wholly wrong is when I know that I am absolutely right. In an individualistic republic, I am the unit of patriotism, and if I keep myself keyed in unison with the music of the Union, my fellow-men will catch the note and fall into time and step."—Vice-President Marshall.

PHARMACEUTICAL FORMULAS

PROPOSED FOR A. PH. A. RECIPE BOOK.

A complete list of these Proposed Formulas since February 1912 was published in an Index in the December 1916 number of the JOURNAL. The Committee will continue its work in monthly instalments in this Department of the JOURNAL. Members of the A. Ph. A. are earnestly requested to send suitable formulas and also criticisms of those published to the Chairman.

Otto Raubenheimer, Brooklyn, N. Y.

No. 447.

NIEMEYER'S DROPS.

Morphine Sulphate	1 Gm.
Bitter Almond Water	100 mils

No. 448.

UNGUENTUM BELLADONNAE ET HYDRARGYRI.

Ointment of Belladonna and Mercury.

German Hospital, Phila.

Ointment of Belladonna	500 Gm.
Mercurial Ointment	500 Gm.

No. 449.

UNGUENTUM GALLAE CUM OPIO.

Gall and Opium Ointment.

German Hospital, Phila.

Powdered Opium	50 Gm.
Nutgall Ointment	950 Gm.

No. 450.

MODIFIED DOBELL'S SOLUTION.

German Hospital, Phila.

Sodium Borate	15 Gm.
Sodium Bicarbonate	15 Gm.
Sodium Benzoate	0.50 Gm.
Sodium Salicylate	0.50 Gm.
Eucalyptol	0.30 mil
Thymol	0.30 Gm.
Menthol	0.15 Gm.
Methyl Salicylate	0.20 mil
Glycerin	125 mils
Alcohol	30 mils
Distilled Water, a sufficient quantity.	
To make	4000 mils

This preparation is very popular among the physicians of the German Hospital, Phila. The antiseptic phenol has been replaced by others of a more agreeable nature and the alkalinity reduced to one-fourth the strength of the original Dobell's solution; this does away with the necessity of further dilution.

No. 451.

EAU DE BOTOT.

Botot's Dentifrice.

German Hospital, Phila.

Oil of Cinnamon	5 mils
Oil of Clove	5 mils
Oil of Anise	5 mils
Oil of Peppermint	10 mils
Oil of Cedar	2 mils
Tincture of Vanilla	50 mils
Potassium Bitartrate	10 Gm.
Cochineal	10 Gm.
Alcohol	1500 mils
Water	500 mils

Dissolve the oils in the alcohol, and the potassium bitartrate in the water, mix the two solutions, then add the cochineal and allow to macerate five days and filter.

No. 452.

ELIXIR VIBURNI CUM HYDRASTIS COMPOSITUM.

German Hospital, Phila.

Viburnum Opulus	150 Gm.
Hydrastis	100 Gm.
Jamaica Dogwood	75 Gm.
Pulsatilla	25 Gm.
Comp. Spirit of Orange	15 mils
Glycerin	150 mils
Sugar	150 Gm.
Diluted Alcohol, a sufficient quantity,	
To make	1000 mils

Moisten the ground drugs with 200 mils of diluted alcohol, macerate 24 hours, then pack firmly in a percolator, pour on diluted alcohol and allow percolation to proceed until 685 mils of percolate have been obtained; add the glycerin and sugar, agitate until solution has been effected, and lastly add the compound spirit of orange.

No. 453.

HARDENING BATH.

Formaldehyde Solution	10 mils
Water	100 mils

Soak plates or prints for about 10 minutes and wash.

No. 454.

STARCH PASTE.

Starch	60 Gm.
Powdered Alum	3 Gm.
Liquefied Phenol	12 drops
Water	600 mils

Mix the starch with 60 mils of water, and stir into 540 mils of boiling water, in which the powdered alum and the phenol are dissolved.

Contributed by the Chairman:

DAKIN'S OR DAKIN-CARREL SOLUTION.
CARREL'S OR CARREL-DAKIN SOLUTION.

This solution has again proven, that there is nothing new under the sun. *Nihil novi sub solel* It is well known that remedies become obsolete, and that in time these forgotten remedies are again resurrected. For this reason the following motto taken from Horace was placed on the front page of the Dispensatory of Valerius Cordus:

"Multa Renascentur, quae jam Cecidere;
Cadentque, quae nunc sunt in Honore!"

"Many things shall be brought to life, which have fallen;
And many things, which are now in honor, shall fall!"

Chlorine was discovered in 1774 by the Swedish apothecary, Carl Wilhelm Scheele, who named it "dephlogisticated marine acid," because he considered it muriatic acid, deprived of phlogiston. Berthollet in 1785 named it "oxy-muriatic acid." Sir Humphrey Davy was the first to express the distinct opinion, that this gas was an element, and he named it "chlorine" in 1811. Berthollet discovered its bleaching action in 1788, and in 1789 the bleaching liquid solution of chlorinated potassa or Eau de Javelle, was first prepared in Javelle near Paris. Bleaching powder or chlorinated lime was manufactured in 1799 by Tennant in Glasgow and on account of its solid state came into extensive use. The French apothecary, Antoine Germain Labarraque in 1822 prepared a bleaching liquid by saturating a cold aqueous solution of sodium carbonate with chlorine, which received the name Eau de Labarraque. The Payen process by the double decomposition of chlorinated lime and sal soda, was introduced into the French Codex in 1837 and has been in use ever since.

Dr. Ignaz Philipp Semmelweis, obstetrician in the First Clinic of the Vienna Maternity Hospital, introduced in 1847 the disinfection and sterilization of the hands by means of a solution of chlorinated lime. This was the introduction of antisepsis into obstetrics, and immediately the dreaded plague, puerperal fever, disappeared.

It is therefore rather strange that in 1915 chlorinated lime or chlorinated soda was again resurrected as a convenient antiseptic solution for use in the hospitals in the present war.

Dr. Alexis Carrel is in charge of the Rockefeller Institute at Compiègne, France, where the antiseptic solutions mentioned in the title are being used as wet dressings for wounds. Dr. H. D. Dakin, formerly director of Herter Laboratories of N. Y. City, but now bacteriologist at Compiègne, presented in August 1915, a paper on Antiseptics before the Academie des Sciences at Paris. He advocated the use of a diluted Labarraque Solution, neutralized with Boric Acid, and made the claim that a ***neutral*** hypochlorite solution was less irritating than an acid or alkaline solution.

The original formula produced a solution which decomposed very quickly and thus gave unsatisfactory results as an antiseptic fluid. For this reason the boric acid was omitted and the addition of sodium bicarbonate was made. The finished solution is ready for surgical use and should be preserved in well stoppered bottles in a cool place, protected from the light. It is practically isotomic with the blood serum. It contains from 0.45 to 0.5 percent of sodium hypochlorite with small amounts of neutral sodium salts.

Test: If 0.2 Gm. phenolphthalein are sprinkled upon 20 mils of this solution and same is shaken with a rotary motion, the liquid should remain colorless.

Assay: To 10 mils of the solution add 2 mils of acetic acid and a solution of 2 Gm. of potassium iodide in 10 mils of distilled water. Then titrate with tenth-normal sodium thiosulphate. The number of mils used multiplied by 0.03725 equals the percentage of sodium hypochlorite in the solution.

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J. A. M. A., vol. 66, p. 150, 430; vol. 67, p. 1108, 1687, 1795.
J. A. PH. A., vol. V, p. 1195, 1407.
Presse médicale, vol. 24, p. 474.
Cal. State Jour. Med., Nov. 1916, p. 429.

No. 455.

DAKIN'S SOLUTION.

Original.

Boric Acid	40 Gm.
Chlorinated Lime	200 Gm.
Sodium Carbonate, dried	140 Gm.
Water	10000 mils

Dissolve the soda in the water and then mix in the chlorinated lime. Allow to stand for about one hour and syphon off the clear liquid, in which the boric acid is then dissolved.

No. 456.

DAKIN'S SOLUTION.

Glover.

Wm. H. Glover, Lawrence, Mass., prepares this solution by using the modus operandi (but not the quantities) of Liquor Sodae Chlorinatae U. S. P. He then titrates an aliquot volume with a solution of boric acid until neutral, using phenolphthalein T. S. as indicator. From this he calculates the volume of boric acid solution necessary for neutralization.

Inasmuch as boric acid decomposes the hypochlorite upon keeping, it is advisable to add same when called for.

No. 457.

CARREL'S SOLUTION.

Extemporaneous.

Solution Chlorinated Soda	200 mils
Water	800 mils
Boric Acid	4 Gm.

Dissolve boric acid in water and mix with chlorinated solution.

No. 458.

DAKIN-CARREL SOLUTION.

Daufresne.

Chlorinated Lime	200 Gm.
Sodium Carbonate, dried	100 Gm.
Sodium Bicarbonate	80 Gm.
Water	10000 mils

Mix the chlorinated lime with 5 liters of water in a 12-liter flask and set aside over night. Dissolve the 2 sodium salts in 5 liters of *cold* water, add this solution to chlorinated lime mixture, agitate well and set aside. When the calcium carbonate has precipitated, syphon off the clear liquid and filter. Preserve in well-stoppered bottles, protected from the light.

Note: No heat must be used!

No. 459.

DAKIN'S OR CARREL'S SOLUTION.

Extemporaneous.

This subject is at present under investigation by the Post-graduate students of the Department of Pharmacy of the College of Jersey City, and the results will be published in due time.

What the pharmacist wants is an extemporaneous method of quickly preparing this solution when called for, and the following formula is proposed:

Solution of Chlorinated Soda, U. S. P.	200 mils
Water	800 mils

Labarraque's Solution, U. S. P. IX contains 2.5 percent of available Chlorine. Consequently this diluted solution contains 0.5 percent, which is the strength of the original Dakin's Solution. This "extemporaneous" Solution is slightly more alkaline, which, however, does not seem to be a disadvantage.

Contributed by S. M. Fass, New York City:

No. 460.

UNG. PERUVIANI COMPOSITUM.

Balsam Peru	
Oil of Cade	
Ichthyol, of each	15 Gm.
Creolin	8 Gm.
Zinc Ointment, a sufficient quantity,	
To make	500 Gm.

An excellent all-round healing and drawing salve.

No. 461.

IMPROVED CORN COLLODION.

Salicylic Acid	20 Gm.
Lactic Acid	4 mils
Extract of Cannabis	1.3 Gm.
Acetone	8 mils
Flexible Collodion, a sufficient quantity,	
To make	120 mils

No. 462.

DIARRHOEA MIXTURE.

Resorcin	8 Gm.
Bismuth Subnitrate	
Bismuth Subgallate, of each	20 Gm.
Comp. Tinct. Cardamon	125 mils
Essence of Pepsin	250 mils
Cinnamon Water, a sufficient quantity,	
To make	500 mils

No. 463.

NEURALGIA APPLICATION.

Menthol	20 Gm.
Chloroform	
Tinct. Myrrh, of each	30 mils
Alcohol, a sufficient quantity,	
To make	120 mils

Contributed by the Chairman:

No. 464.

EMULSUM OLEI LINI, THOMSON.

Thomson's Emulsion of Linseed Oil.

Thomson's Emulsion.

This emulsion has been employed since 1875 by Dr. William H. Thomson, Professor of Theory and Practice of Medicine in the Medical Department of New York University. He brought this remedy to the attention of the profession in a paper read before the New England Medical Society in December, 1888, and published in the New England Medical Monthly, March 15, 1889, and other medical journals.

Dr. Thomson's name has frequently been corrupted into "Thompson" and one of the principal ingredients in his original prescription, namely, Mucilage of Chondrus, has been replaced, to a distinct disadvantage, by Acacia.

The following is the original formula converted into the approximate metric system:

Linseed Oil	300 mils
Glycerin	15 mils
Syrup	200 mils
Diluted Hydrocyanic Acid	
Oil of Cinnamon	
Methyl Salicylate, of each	5 mils
Mucilage of Chondrus, a sufficient quantity,	
To make	1000 mils

Prepare 500 mils of mucilage of chondrus according to N. F. from 15 Gm. of Irish moss, and use this to emulsify the linseed oil. Then add syrup and other ingredients.

Contributed by William Gray, Presbyterian Hospital, Chicago:

No. 465.

MOLLINUM.

Unna's Salve-Soap.

Lard	400 Gm.
Potassium Hydroxide	56 Gm.
Alcohol, 90 percent	40 Gm.
Water	400 Gm.
Glycerin	150 Gm.

Prepare a soap from the first 4 ingredients by means of heat. Allow to stand 12 hours at 50 to 60° C. and add the glycerin.

Note: A white soap containing about 12 percent excess of fat, used as a basis for ointments for rapid absorption. It is readily washed off with water with which it forms a lather, it leaves the skin fresh and supple and makes no grease spots on linen.

No. 466.

COAL-TAR HAIR TONIC.

Resorcinol	8 Gm.
Coal-Tar Solution, N. F.	8 mils
Diluted Alcohol	240 mils

Mix well and filter.

No. 467.

VARNISH REMOVER.

Benzol	2 vol.
Acetone	1 vol.

No. 468.

ORTHOFORM OINTMENT.

Orthoform	10 Gm.
Petrolatum	90 Gm.

Note: Acts as a local anesthetic, relieving pain in hemorrhoids, etc.

No. 469.

ORTHOFORM SUPPOSITORIES.

Orthoform	4 Gm.
Cacao Butter	20 Gm.

Divide into 10 Suppositories.

Note: Acts as a local anesthetic.

No. 470.

BISMUTH CREAM.

Bismuth Subnitrate	4 Gm.
Zinc Oxide	8 Gm.
Olive Oil	120 mils
Lime Water, a sufficient quantity,	
To make	240 mils

Note: Very soothing in sunburn and erythema.

No. 471.

LOTIO CALCIS.

Calcis Lotion.

Zinc Oxide	15 Gm.
Starch	15 Gm.
Lime Water	120 mils
Rose water, a sufficient quantity,	
To make	240 mils

Note: This lotion gives good results in poison ivy treatment.

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting, if possible. Minutes should be *plainly* written, or typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

BALTIMORE.

The February meeting of the Baltimore Branch of the American Pharmaceutical Association was held on February 24, 1917, at Harris Hall, in the University of Maryland, with the Vice-President, Dr. Frontis Lentz, presiding.

Omitting the reading of the minutes of the January meeting, the Secretary read a letter from Dr. H. A. B. Dunning, declining to serve as President of the Branch. Regrets were expressed and Mr. Robert S. McKinney was nominated and unanimously elected to the chair.

Dr. Clifford O. Miller, of the State Board of Health, gave an interesting and instructive talk on the "Determination of Alcoholic Percentages of Pharmaceutical Preparations," amplifying his lecture with practical demonstrations.

He made a general statement concerning the determination of alcohol by the evaporation method, but pointed out that this method does not give altogether satisfactory results where the evaporation of the alcohol causes the separation of substances which do not dissolve in the added water. He showed the general types of distilling apparatus in use, such as the goose neck, the Kjeldahl distilling bulb, and the Hempel column. He then demonstrated a column he had devised, stating that this column is extremely useful where very small quantities of alcohol are present and where concentration of the alcohol in the distillate means a more accurate determination of the alcoholic percentage.

In this apparatus a thermometer is used to record the temperature of the vapor, and this serves to show the character of the distillate as well as the completion of the distillation, the temperature dropping to approximately 30° C. when the vapor no longer contains alcohol.

A pycnometer fitted with a thermometer is used to obtain the specific gravity of the distillate, 25° C. being found a more convenient temperature at which to work than 15.56° C., as given in the U. S. P. IX.

Dr. Miller explained the use of the immersion refractometer in the accurate and rapid determination of the percentage of alcohol in the distillate, as well as the detection of any methyl alcohol which may be present. If the reading of the refractometer indicates a percentage of alcohol agreeing with that obtained from the specific gravity, it may be assumed that no methyl alcohol is present. If, however, there is an appreciable amount of methyl alcohol present, the low refractometer reading will indicate the fact at once.

After giving the general method of alcoholic determination, Dr. Miller gave methods for overcoming some difficulties likely to arise. A carbonated liquid may be freed from carbon dioxide before distillation by pouring from one vessel to another. The foaming of new wines may be overcome by the addition of tannic acid or paraffin, the paraffin being more satisfactory as it forms a layer over the liquid and almost entirely prevents foaming.

The bumping which often occurs in distillation can be overcome by adding a few pieces of pumice which have been heated to red heat, plunged in distilled water, and left under water until used. Pieces of broken glass or glass beads, or capillary tubes closed at one end also serve very well.

In cases where the preparation contains fats, volatile oils, soap, volatile bases or acid, or other volatile substances such as ether, iodine, etc., these are eliminated before the distillation is carried out.

In those preparations containing volatile acids, the acids are best fixed by adding sodium carbonate to the distilling flask. Those containing ammonia are best fixed with phosphoric acid.

Preparations containing free iodine are first freed from iodine by decolorizing with zinc and adding a few mils of sodium hydroxide

solution. The iodine may be eliminated by means of sodium thiosulphate, but in this case sodium hydroxide solution must also be added to prevent the sulphur from distilling over with the alcohol.

If volatile alkaloids are present, these may be fixed with tannin.

Volatile oils, camphor, oils, fats, and soaps are removed by adding saturated salt solution and shaking out with petroleum ether. The petroleum ether extract is washed with saturated salt solution and the washings are added to the distilling flask. In soaps containing ammonia acidified salt solution is added, the acid being used to fix the ammonia. Alcohol-ether mixtures are miscible with either water or petroleum ether alone, but with the simultaneous addition of both, the alcohol mixes completely with the water and the ether with the petroleum ether. Spirit of ether, for instance, is mixed with an equal volume of saturated salt solution and shaken out with petroleum ether.

Preparations containing glycerin present no difficulties when estimating the percentage of alcohol in the column devised by Dr. Miller, as no glycerin is carried over even when present to the extent of more than 10 per cent.

After a general discussion of the matter presented, a rising vote of thanks was tendered Dr. Miller.

Dr. Charles C. Neal gave a history of the determination of alcoholic percentages. He referred back to the period immediately following the passage of the Pure Food and Drug Law when the average percentage of alcohol was estimated and stated on the labels, and made comparisons with the more definite and accurate processes used at the present time, this improvement being due to the important data gathered since that time.

He pointed out that the variation in the alcoholic percentages of fluidextracts is due to the varying amount of moisture present in the crude drug and the varying amount of extractive present in different lots of the same drug. The time at which the alcoholic determination is made is also a factor, since soon after manufacture there is a deposit of inert matter, which should be allowed to settle before the determination is made.

In the manufacture of elixirs allowance should be made for the shrinkage in volume when alcohol is added to the aqueous portion, and care should be taken to see that such preparations are thoroughly mixed before an alcoholic determination is made.

B. Olive Cole,
Secretary.

CHICAGO.

The regular meeting of the Chicago Branch, A. Ph. A., was called to order at 8 o'clock in the evening of January 25th, at Kuntz-Remmlers, by President Hugh Craig.

The reports of officers and committee chairmen were received and the annual election of officers ensued with the following unanimously elected: *President*, Hugh Craig; *First Vice-President*, A. H. Clark; *Second Vice-President*, John F. Fischnar; *Third Vice-President*, Wm. Gray; *Council Member*, Clyde M. Snow; *Secretary-Treasurer*, E. N. Gathercoal; *Membership*, C. C. Orr; *Legislation*, James H. Wells; *Practice*, I. A. Becker; *Medical Relations*, Dr. B. Fantus; *Publicity*, Thos. H. Potts.

The subject for the evening's discussion was the proposed Health Insurance Bill. Unfortunately, Dr. J. H. Beal could not be with us, but Mr. Craig read several passages from the published copy of the bill and opened the subject for general discussion in which Dr. Hess, Dr. Fantus, Dr. Burdick, Mr. Craig, Prof. Snow, Prof. Clark, Prof. Day, Mr. Gathercoal, Mr. Potts, and others took part.

The Branch duly adopted a motion that the chair appoint a committee to consider this matter of Compulsory Health Insurance to report at a later meeting. The chair appointed on this committee, Dr. J. H. Beal, *chairman;* Dr. Bernard Fantus and Mr. J. H. Wells.

Mr. B. L. Eicher then read a paper on Chlorozene, Dr. Dakin's new antiseptic. This was adopted for publication after discussion by various persons present.

The question of some action by the Branch on the A. Ph. A. Year Book proposition was made by the Secretary, but upon statement by Prof. Day that the results of the general vote on the Year Book questions would soon be announced, further discussion was reserved until a later date.

E. N. Gathercoal,
Secretary.

NASHVILLE.

The February meeting of the Nashville Branch of the American Pharmaceutical Association was held in joint session with the

Nashville Drug Club, February 15, 1917, D. J. Kuhn, presiding.

The minutes of the last meeting were read and approved. Assistant Attorney-General George M. Thomas spoke on the Tennessee prohibition laws and in his address gave a brief résumé of prohibition legislation, beginning with the enactment of the Four-Mile Law in 1835, which made it unlawful to sell liquor within four miles of a school house. He then spoke of the Holliday Act, passed in 1909, whereby the same restrictions became effective in the entire state and the possession of a United States liquor dealer's license was made *prima facie* evidence of guilt; the Soft Drink law which prohibits the sale of beverages containing over one-half of one percent of alcohol, passed in 1913. Druggists are permitted to fill written prescriptions of a physician who has personally visited the patient at his home. The law passed this year by the Tennessee legislature known as the Bone Dry Bill, makes it unlawful to ship liquors into the state and from one section to another, but exempts druggists from its provisions. Mr. Thomas explained in detail the rights of druggists in handling alcohol, wine, etc.

State Pure Food Inspector Harry Eskew discussed an amendment, now pending, to the Tennessee Narcotic Law, whereby it becomes the duty of county health officers to write all prescriptions for habitues.

A resolution was adopted opposing the passage of bills before the legislature which seek to eliminate the payment of the annual fee for registration of pharmacists and assistants; that which allows persons having ten years' experience in a drug store to become registered in certain counties without examination, and the compelling of dispensing poisons in triangular shaped bottles.

D. S. Sanders called the attention of the meeting to the expiration of the patent to manufacture aspirin, on February 27, 1917. The meeting was well attended and a number of members of the Tennessee legislature were present.

WILLIAM R. WHITE,
Secretary.

SAN FRANCISCO.

The regular monthly meeting of the San Francisco Branch of the American Pharmaceutical Association was held on February 8, 1917. President Lengfeld presided. A communication from the New York Branch, relative to the "Disposition of the Year Book," was received and placed on file. The chairman of the Committee on Drug Market reported that the country is threatened with a shortage of opium and opium derivatives. Advances in prices of many drugs were listed.

Comments on the preparations of the National Formulary resulted in an interesting discussion of the following: Compound Syrup of White Pine, Tincture of Cudbear, Solution of Aluminum Acetate and Antiseptic Solution.

In the formula for syrup of white pine the addition of cudbear was deemed unnecessary. In antiseptic solution the excessive amount of eucalyptol was criticized and also the use of both oil of thyme and thymol. A decided change in the menstruum of tincture of cudbear was noted and some members thought the former menstruum preferable. The solution of aluminum acetate could have been made permanently clear by filtering the solution separately, then mixing and refiltering. The present process, though an improvement on the former one, does not seem to produce a permanently clear liquid.

These informal discussions seem to be more interesting to the members than prepared papers and it was decided to continue them at the March meeting.

CLARISSA M. ROEHR,
Secretary.

CITY OF WASHINGTON.

The January meeting of the Branch was called to order at 8.15 at the National College of Pharmacy, Dr. W. W. Stockberger, presiding.

The minutes of the December meeting were read and approved.

The Secretary read the following communication from the New York Branch, which embodied a resolution adopted by the Philadelphia Branch and which had also been sent to us:

New York Branch
of the
American Pharmaceutical Association.

Jan. 13, 1917.

DEAR SIR:

At the January meeting of the New York Branch of the A. Ph. A., the following communication was read by the Secretary:

DEAR SIR:

At the last meeting of the Philadelphia Branch, during a discussion on the question,

"What Disposition Shall be Made of the Year Book?" the following points were emphasized:

1. The A. Ph. A. gives each member more than his dues will pay for, hence each year there is a deficit. This must be met with an increase in revenue or a decrease in expenditures. The former can be brought about only by an increase of dues; the latter more feasibly either by discontinuing the Year Book or publishing it in the JOURNAL from time to time.

2. The continuance of the Year Book is absolutely necessary for the progress of American Pharmacy, for it is only by the use of this and allied works that any progress is made. Were it not for this systematized and carefully indexed account of what has been done, information which can now be obtained in a few moments would only be available after an extended time- and patience-consuming search through many journals.

In accordance with this view, the following resolution was proposed and adopted:

RESOLVED, That the Philadelphia Branch go on record as favoring the continuance of the JOURNAL and the Year Book as at present, and that any deficit which might occur be met by an increase in dues; and further, that the Secretary be instructed to send copies of this resolution to the Council and to the Secretaries of the various local branches.

(Signed) J. ED. BREWER,
Secretary.

After considerable discussion, it was decided not to take hasty action upon such an important matter.

The following resolution was then adopted:

BE IT RESOLVED, By the New York Branch that in view of the vital importance to the A. Ph. A. of the step proposed in the resolution adopted by the Philadelphia Branch, and furthermore, in so far as nothing is known by the members, regarding the result of the recently held referendum, that a committee of three be appointed by the chairman of the Branch to thoroughly investigate the question of the continuation of the Year Book and JOURNAL and an increase in annual dues, said committee to report at a future meeting of the New York Branch.

BE IT FURTHER RESOLVED, That the Secretary send a copy of this resolution to the Secretary of each local Branch.

(Signed) H. H. SCHAEFER,
Secretary.

Mr. Hilton stated that this whole question was being made the subject of a referendum vote and as no report had yet appeared, he moved that no action be taken until the New York Branch had investigated and reported. Passed.

A communication from Miss Cowper was referred to the Secretary for reply.

Mr. Flemer offered a motion to be acted upon at the next meeting, combining the offices of Secretary and Treasurer. Passed.

Dr. Stockberger called for any items of interest to members. Mr. Sievers of the Bureau of Plant Industry, thereupon, reviewed a recent bulletin on "Belladonna Growing," written by Prof. Schneider of the University of California. He showed that the writer exhibited great unfamiliarity with much of the published work on this subject, as he claimed that only one crop of the drug could be gathered in the East when the experience of the Department had shown the possibility of harvesting four crops. He showed that while Prof. Schneider claimed that 0.67 percent alkaloids was a high content, the Department had grown plants showing over 1 percent. He showed that Prof. Schneider's advocacy of seed selection from high potency plants had been discussed by the Department for several years and that during that period seeds of high pedigree plants had been distributed.

The general topic of the evening, "Historical Pharmacy Collections," was opened by Dr. Stockberger, who described the efforts made by Southern investigators to delve into the history of pharmacy in that section, and of the discovery in South Carolina of a collection of old prescriptions written during the Civil War, which vividly portrayed the conditions obtaining during those years.

Mr. F. L. Lewton, Curator of Medicine, Smithsonian Institution, U. S. National Museum, delivered an interesting address on the work being done to develop an historical collection at the Museum. This address will be published in full in the JOURNAL.

Mr. N. R. Mueller, of the Bureau of Plant Industry, spoke of the historical pharmacy collections at the University of Wisconsin. He mentioned some of the old-fashioned medicines on exhibition and the manufacturing devices showing the development of pharmacy.

Dr. Arno Viehover, Bureau of Chemistry, opened the discussion offering many practical suggestions relative to the arrangement and labeling of specimens. He believed that much attention should be paid to a consideration

of how drugs are cultivated, collected, cured and distributed. He also thought that the manufacturing side should be largely exhibited and that this should embrace the products from natural drugs and synthetic products. He suggested the importance of an exhibit of all of the official drugs and the desirability of showing the portraits of those who have made the profession.

Dr. F. B. Power spoke of the Wellcome Historical Medical Museum in London, which includes the old Liebig laboratory and the oldest pharmacy in London, both intact. He described his own experiences with Parrish in Philadelphia 45 years ago and said that he had coated pills with gold and silver with the identical apparatus now on exhibition at the University of Wisconsin. He also alluded to the Tschirch collection at Berne and the Germania collection at Nuremburg.

Mr. Flemer said that the Historic Section of the Association was custodian of a collection which had no repository and thought that our Branch might suggest the placing of this collection in the U. S. National Museum.

Mr. Kalusowski and Mr. Hilton also spoke of this collection and the desirability of having it on exhibition as a loan collection at least and Mr. Flemer moved that a committee, to include Messrs. Hilton and Lewton, be appointed to induce the parent association to place exhibits in the U. S. National Museum and to report from time to time on the progress of its work. Passed.

H. C. FULLER,
Secretary.

LETTER TO THE EDITOR.

CHICAGO, ILL., February 18, 1917.

Editor of A. PH. A. JOURNAL:

DEAR EBERLE:

Stewart and England have tackled the Patent Law from the scientific and technical trenches. Allow me to say a word about the semi-political-commercial end. In 1889, on my return from Germany, I learned that I could not sell, give away, or even swallow antipyrin, that a friend in Germany had given me for seasickness without coughing up a royalty to the lessee of the patent. I looked into the whyness and have been hollering about "Change the Patent Law Monstrosities" ever since.

Long before this topic had been discussed by anybody I got my facts and figures and in 1893 I read a paper on "Change the Patent Law," before the A. Ph. A. After reading it, my friend, George Seabury said, when I sat down by his side: "Willy, Willy, you are O. K., but the 'interests' are against you."

When the N. A. R. D. was started in 1898, I took this slogan to the N. A. R. D., found attention, listeners, and was requested to ask Jim Mann to father the new patent law, which he did. One of the biggest manufacturing concerns had helped me in 1888–93 to get these facts, helped me enthusiastically, because they could make certain chemicals if it were not for the patent law. At that time the patent law protection was leased out to some concern which exploited the trade to the best of the limit. Later this concern took out some valuable patents itself and got cold feet about changing the law.

A little later on, a Chicago jobber defended a suit against a patent lessee, had him licked to a frazzle, but the lessee took out an appeal. The A. Ph. A. was approached to help defend the *test case*, but declined. Meantime the lessee made an offer, paid the defendant all his expenses and "then some" and the case was dropped.

The Mann Law dragged along, not the white slave, but the Patent Law, and was dropped. Jim Mann told me not long ago that he could have passed that law but the druggists would not let him. Draw your own conclusions! But George was right; the interests were against me. As long as this world stands, passion and interests have been and will be the molders of destinies. Even some of our leading editors helped me when I started to fight the monstrous law, but saw fit to change front since and are silent in seven and a half languages now.

Needless to say, much as I abhor the facts, I am strictly for living up to the law as it is, but also strong for changing the thing. It is not a stimulant but a stone wall against scientific research work—let the process be protected, but encourage scientific research by allowing chemists to work new processes. But—Stewart and England look after the scientific end—I wanted to call attention to the quasi political chicanery behind the scenes, and that to my mind is as rotten as the law itself, and I am for boiling down letters in order to insure attention. The war scarcity of chemicals has thrown a brilliant searchlight on the dire need of changing our laws.

W. BODEMANN.

COMMITTEE REPORTS

REPORT OF COMMITTEE ON QUALITY OF MEDICINAL PRODUCTS. September 1916*

The chief feature of the drug market for the past year has been the conditions resulting from the scarcity of drugs and chemicals of all sorts. Importations have been checked partly through the curtailment of foreign production and partly through the difficulties of transportation. In addition to this the foreign consumption has been increased so that the balance for supplying to us was decreased. To this scarcity of foreign drugs has been added a scarcity of domestic products, owing to an increased demand for export.

The conditions referred to as resulting from this scarcity affect both prices and qualities. The prices of all drugs have increased, in most cases phenomenally and in many cases to figures that would heretofore have been considered impossible. The following are some of the present, as compared with ordinary wholesale prices, and the list might be largely extended:

	1913.	1916.		1913.	1916.
Acid Benzoic (Toluol)	$0.30	$ 7.50	Acetphenetidin	$ 0.90	$ 25.00
Aconite Root	0.20	0.50	Balsam of Peru	1.85	4.00
Bay Leaves	0.12	1.00	Belladonna Leaves	0.45	1.85
Belladonna Root	0.20	2.00	Buckthorn Bark	0.14	1.00
Bryony	0.15	1.20	Bleached Calamus	0.28	2.00
Cannabis	1.80	2.75	Colchicum Root	0.20	1.30
Doggrass	0.16	1.40	Digitalis	0.25	0.90
Gentian	0.06	0.28	Henbane	0.24	1.25
Licorice Root	0.06	0.25	Methylene Blue	1.25	13.00
Musk Root	0.08	3.00	Oil Bitter Almond	5.20	12.00
Oil Amber Rect	0.20	1.75	Oil Caraway	1.50	2.50
Oil Castor, gal	0.90	2.50	Oil Cinnamon	12.00	18.00
Oil Coriander	9.60	35.00	Oil Cod Liver, Norwegian, bbl	25.00	150.00
Oil Fennel	1.85	4.00			
Phenolphthalein	1.25	20.00	Oil Juniper Berries	1.00	7.50
Potassium Bicarbonate	0.10	1.25	Potassium Bromide	0.35	4.00
Potassium Carbonate	0.08	0.85	Potassium Binoxalate	0.12	1.25
Quinine Sulphate	0.26	0.75	Pulsatilla	0.12	4.00
Resorcin	1.10	18.50	Rhatany Root	0.12	0.75
Safflower	0.30	1.80	Saccharin	1.05	16.00
Senna	0.08	0.30	Sage	0.10	0.50
Styrax	0.30	1.25	Sloe Berries	0.14	0.60
Thymol	2.40	11.00	Tragacanth	0.90	2.85
Valerian	0.25	0.65	Venice Turpentine	0.30	3.00

Speculative manipulation has had some part in this process of advancement of prices, but in the main it has been a legitimate result of the law of supply and demand. In so far as pharmacists and dealers have had the drugs to supply, this result has accrued to their benefit, and the loss has fallen wholly on the ultimate consumer. In a great many cases, dealers have not been able to reap this advantage, because they have not had the goods, or have not had them in sufficient quantity. Conservative dealers would far rather supply their products in normal quantity at ordinary profits than to supply fractional quantities at fanciful percentages of gain. Deducting running expenses from profit on the restricted sales, even at these high figures, the net proceeds are not always satisfactory. The profits of the pharmacist are not proportionate with those of

* Read before Scientific Section, A. Ph. A., Atlantic City meeting, 1916. Dr. H. H. Rusby stated that a portion of the preliminary part of this report had been taken from that of a like committee of the New York State Pharmaceutical Association, and the Committee desired that due credit be given.

the dealers who supply him. In many cases he pays ten times as much for the ingredients of a prescription, but it is impossible for him to multiply his profit on the prescription to correspond. Thus the general tendency with the pharmacist, except as relates to the stock that he had on hand, has been to require larger capital, with a reduced percentage of profit. The chief danger is, however, to be expected when prices begin to retrace their steps downward. Here is where good business sense is to be most manifested. It is obvious that each purchase, however small, sold at a price decline means a loss, to some extent. It follows that every bit of skill that the pharmacist possesses should be devoted to restricting such losses as far as possible, and this means buying in the most cautious manner and in the smallest possible amounts. Even then, every pharmacist is certain to lose money when the decline commences, but he can save himself from serious loss—possibly disaster.

The effects on the quality of drugs have been wholly that of deterioration. No argument is needed to prove that in times of scarcity, lower grades get into use than those which are customary; nevertheless, it will be profitable to indicate some of the influences which lead to this result.

The cultivation of drugs is a very large industry in the old world, in addition to the collection of wild supplies. This industry has been enormously restricted by the scarcity of labor incident to the war, and by the necessity for the employment of this labor in work of more immediate necessity. These cultivated products representing the very highest quality, thus become in poor supply.

The collection of wild supplies of drugs in the old world, is a far more stable and regular procedure than in this country. It is mostly conducted by people with whom it is a regular employment, and who know how to supply a more or less uniform product. Thousands of these men have gone into military service, and the collection and preservation of drugs has passed into less competent hands, and there is an insufficiency of this poorer service. The result has been an inevitable deterioration of quality, increase of impurities and admixtures and a greater number of errors of identity.

Deliberate sophistication is always encouraged and promoted by high prices. With a drug at 6 cents a pound, a 10 percent adulteration will scarcely pay, all things considered, but with the price at 60 cents—and it sometimes shows an increase several times greater than this—the profit is very tempting. It is to be remarked that the federal inspectors stand ready to exclude and do exclude practically all such importations when they are substandard; but with prices so very high as they now are, there are handsome profits in increasing the impurity up to the full legal allowance. It is also to be remembered that interstate inspection of drugs is but feebly carried out.

There are in existence at all times, large stocks of substandard drugs. It would be expected that when a lot of drugs has been found to be clearly and seriously below the legal standard, and in a way that cannot be remedied, it will be destroyed, but such is usually not the case. It is preserved, often for years, in the expectation of the occurrence of some condition, as that of the present, that will favor its distribution.

Purchasers who at ordinary times would not consider taking anything but the very best will now be inclined to treat for a lower grade, especially if they have commitments to deliver at prices prevailing before the rise.

In all of these ways here enumerated, there has been brought about a wide-spread and serious deterioration of quality in drug supplies, notwithstanding the fact that a majority of these influences have been met and checked by the proper officials.

It is not too much to say that the impurities, adulterants and substitutes of the past year, in the drugs offered for import at New York have exceeded the total for the preceding five years, and have perhaps equalled those of the first year of the administration of the present Food and Drugs Act. It can also be asserted that very few of these offerings have gained admission to the country, except after they had been re-conditioned to meet the Federal requirements. It may also be said that but for the Federal inspections under this law, most or all of these drugs would have entered commerce. Not only so, but the amount of those thus offered would have been several times greater than they have been and all would easily have been accepted. Consideration of the details which here follow will probably convince all that the results of this year's operation of the Federal law constitutes a full return for all that its administration has cost since

its enactment. It should be stated that great quantities of samples of spurious and adulterated drugs have been received by our drug houses, subject to approval, which have been rejected upon being condemned by competent authority.

Examination of various state reports show that the simple solutions, spirits and tinctures are still off from standard strength. Twenty-eight out of forty samples were condemned by one State Board, and forty-four out of ninety-seven by another. Spirit of Camphor, Spirit of Anise and Spirit of Peppermint were found very deficient.

On the other hand a very encouraging condition of products as a whole is shown by some state reports. Of two hundred and forty-six samples examined by one State Board only five were branded as adulterated. Thirteen lots of calomel tablets were all full strength. Twenty lots of strychnine tablets gave no wide divergence from claimed strength. Another State Board reports fifty-six varied from standard out of three hundred and thirty-eight.

There are still occurring cases of hasty and ill-advised action in overzealous efforts to execute laws and regulations. A young woman was held five days in confinement on the charge of having heroin in her possession, in spite of her assertion that it was a toilet powder, which statement was later verified by chemical analysis.

There is still good reason for complaint at the carelessness of reports on the part of some having the enforcement of the law in their keeping. It is surprising when the standing of reputable people may be at stake, that such careless statements will be made. As an illustration —Report of one State Board says in relation to an insecticide that "it contains Oil Tar, Oil Pennyroyal, Ammonia and SIMILAR simples. Complete analysis not made." If a complete analysis was not made, why should they state what it contains? As a matter of fact, it did not contain any Oil Tar nor any Ammonia. After a good deal of correspondence they stated that it was not Oil of Tar, but a coal-tar derivative of some sort, but insisted that it contained Ammonia. A subsequent sample they reported did not contain Ammonia and did not contain a coal-tar derivative, while the same percentage of phenol was used in each, both lots being made from the same formula. This was later corrected to read "did not contain Oil of Tar." (Original sample finally sent in had experienced a change of heart since leaving laboratory. It no longer was true to formula. It had an abundance of free ammonia and a tar product not present in the bottle when marketed.) The seriousness of pursuing such a course in uncalled-for injury to others, with possibility of troublesome proceedings to secure justice, and the discrediting of the whole subject of organic assays seems to be lost sight of by some Boards.

The question of misbranding under the new label law is a perplexing one. The article by Prof. J. H. Beal in the *American Druggist* for April 1916 presents many of its aspects in a forceful way and the various decisions of the courts are gradually clarifying it.

It is interesting in this connection to note the results of the examination of six hundred and eleven proprietaries by a committee of the Proprietary Association of America as to their relation to the food and drug and labelling laws of the U. S. and the states. One hundred and sixty complied in every respect. Eighteen were passed after criticism. Thirty-seven provisionally. Three hundred and eighty-eight required amendment and five were withdrawn from the market.

It is easy to see how the letter of the law may be innocently broken. A proposed new A. Ph. A. recipe book formula for "Honey and Almond Cream" does not contain Honey and the title would be misbranding. Other cases of the persistence of old names not accurately descriptive will occur to every one. Again the N. F. adopts preparations with titles long in use by different manufacturers, but applying to entirely different formulas.

One result of the high prices has been to largely curtail the use of the product involved. The bromides serve as an illustration.

	Sold in 1910 at	1913.	1915.	1916.
Ammonium Bromide	$0.30 lb.	$0.49 lb.	$4.50 lb.	$1.00 lb.
Calcium Bromide	0.39 lb.	0.44 lb.	3.50 lb.	0.80 lb.
Lithium Bromide	1.10 lb.	1.50 lb.	5.00 lb.	... lb.
Potassium Bromide	0.19 lb.	0.37 lb.	5.50 lb.	1.35 lb.
Sodium Bromide	0.25 lb.	0.45 lb.	3.50 lb.	0.80 lb.
Strontium Bromide	0.32 lb.	0.43 lb.	3.50 lb.	0.80 lb.

During the period of excessive prices, from November 1915 to July 18, 1916 their use dropped to nearly the vanishing point. It remains to be seen whether the tumble from the sky to a hole in the ground will restore their popularity.

TABLE.

ACETIC ACID: Six shipments were rejected assaying below the required 36% of absolute acid. H. ENGELHARDT.

Two carboys—U. S. P. standard of purity 80%—assayed 79.06% and 79.21% but would not stand the permanganate test for C. P. E. L. PATCH.

ACID CITRIC: One lot was Tartaric and one a mixture of Citric and Tartaric. IND. B. H.

ACID OLEIC PURIFIED: A lot had to be rejected on account of containing too large a proportion of solid fatty acids. H. ENGELHARDT.

ACID TANNIC: One lot rejected on account of its dark color. W. L. SCOVILLE.

ACONITE ROOT: One lot assayed very low and contained 6.4% ash. E. L. PATCH.

Of ninety-seven samples of tincture, forty-four were not within 10% of official strength. NO. DAKOTA EXP. STATION.

Of four samples of root examined three were rejected, assaying below 0.5% of aconitine. H. ENGELHARDT.

ACONITE TINCTURE: Forty samples assayed 0.013 to 0.051 Gm. Aconitine to 100 Cc. Twenty-eight were below U. S. P. standard of 0.045. CONN. AGRIC. STATION.

ADEPS LANAE: Several lots contained petrolatum and resin. N. Y. COM.

A large shipment of anhydrous was rejected because acid number was too high, probably due to the presence of resin. The product had a very sticky consistence and did not readily mix with water. H. ENGELHARDT.

Medicinal quality is hard to obtain. It is usually of dark color, strong in odor and frequently shows an excess of sulphur compounds. W. L. SCOVILLE.

AJOWAN: Vast quantities of this drug have been imported the past year. It appears to have gone mostly to Newark, N. J., for the purpose of manufacturing thymol, which it contains in large percentages. H. H. RUSBY.

ALCOHOL: Of twelve samples five were ethyl alcohol and seven methyl alcohol variously labeled acetone, alcohol and Columbian spirits. PROC. N. Y. PHARM. ASSOC.

ALOES: One lot contained no aloin. W. L. SCOVILLE.

AMYL NITRITE: We were compelled to reject several samples which assayed below the requirements of the U. S. P. We found 72.6%, 70.0%, 71.3%, 74%. The assay was made both by the official gasometric method and by Dietze's potassium chlorate method. H. ENGELHARDT.

ANTIPYRIN TABLETS: Ten grains assayed 86.5% antipyrine. E. L. PATCH.

ASAFOETIDA: This article is now almost always good. The standards which were worked out by the U. S. Bureau of Chemistry, and which were submitted to so much criticism by certain English chemists, have been fully justified. H. H. RUSBY.

Powdered, 20% ash. Insoluble in alcohol, 41.5%. Soluble in alcohol, 53.5%. Moisture, 5%. E. L. PATCH.

Eleven lots ranged from 32.76% soluble in alcohol and 37.46% ash to 76.4% soluble in alcohol and 6.6% ash. Eight samples contained more than 64% soluble in alcohol, and with one exception, less than 8% of ash. The lowest ash content was 4.58%. W. L. SCOVILLE.

ASPIRIN: Several lots were adulterated; 100,000 tablets containing little aspirin were seized and destroyed. Of one hundred and twenty-seven lots, nine contained a mixture of salicylic acid and acetyl salicylic acid, twenty-two contained sugar, starch, phosphates, etc., and no aspirin. CHICAGO HEALTH COM.

BARIUM PEROXIDE has been difficult to obtain and runs lower in strength than in previous years. Two lots accepted contained 78% and 73% BaO_2. W. L. SCOVILLE.

Lots have contained an excess of sodium chloride. E. L. PATCH.

BALSAM TOLU: One lot contained 9.8% inert material insoluble in alcohol and contained excess of moisture. E. L. PATCH.

BELLADONNA LEAF: Twelve samples met the requirements of the U. S. P. Lowest 0.3%, highest 1%. H. ENGELHARDT.

Five samples, 0.37%, 0.464%, 0.28%, 0.238%, 0.35%. E. L. PATCH.

Six lots contained from 0.30% to 0.52% alkaloids. W. L. SCOVILLE.

BELLADONNA ROOT: Four samples had to be rejected, assaying only from 0.4% to 0.445% of total alkaloids. H. ENGELHARDT.

BEEF EXTRACT

Sodium Chloride 4%	Water 20%	Proteids 54.25%
Sodium Chloride 5.8%	Water 22%	Proteids 52%
Sodium Chloride 6.63%	Water 18.3%	Proteids 46.45%
Sodium Chloride 4%	Water 19%	Proteids 55%
Sodium Chloride 4.93%	Water 14%	Proteids 52.19%

E. L. PATCH.

BEESWAX: Genuine beeswax of Chinese origin has been rejected because its analytical figures vary from the ordinary and its appearance is somewhat different. DRUG TOPICS.

BUCKTHORN BARK: For years this was imported in large quantities from Russia and distributed to the trade. It is now stated that it was the bark of *Rhamnus catharticus* and not *Rhamnus frangula*. M. G. K. Co.

BUTTERMILK: It is stated that in Philadelphia 85% of the buttermilk sold is made from dried skim milk mixed with water and a little lactic acid. It tastes better than the genuine, but is of inferior value. N. A. R. D. JOURNAL.

CALCIUM PHOSPHATE PRECIPITATED: One lot labeled "U. S. P." contained 1.32% of $CaCl_2$. Another lot labeled "Technical" contained but 1.1% $CaCl_2$. The "U. S. P." was priced at a large advance over the "Technical." E. L. PATCH.

CANNABIS INDICA: Sample of American-grown *Cannabis Indica* was of fine color and appearance, but gave only 5.96% of ether-soluble constituents against an average of 11% in foreign-grown. E. L. PATCH.

CANTHARIDES, RUSSIAN: A considerable quantity of Mylabris or Chinese blister beetle has been offered under the name of Cantharis. Its admission has been permitted upon an agreement to change the name. H. H. RUSBY.

CAPSICUM

"Mombassa"	20%	alcoholic extract,	6.2% ash.
"Choice"	23%	alcoholic extract,	6% ash.
"Bombay"	21.7%	alcoholic extract,	8% ash.
"Bombay"	21.5%	alcoholic extract,	7% ash.
"Bombay"	19.5%	alcoholic extract,	8% ash.
"Mombassa"	24%	alcoholic extract,	6% ash.

E. L. PATCH.

CARAWAY SEED: A shipment was received which appeared to be contaminated with mouse dung, but upon examination the latter was found to be a sclerotium, quite closely related to common ergot. Although the amount was small, the poisonous nature of such an admixture called for rigid exclusion. H. H. RUSBY.

CARD TEETH: A shipment of card teeth had to be rejected because it contained a considerable amount of brass. H. ENGELHARDT.

Lot 1: Bright, clean, free from rust, free from copper. Trace of grease yielded to ether.

Lot 2: Bright, clean, free from rust, free from grease. E. L. PATCH.

CASSIA FISTULA: A single shipment of *Cassia Brasiliensis* has been offered as *Cassia fistula*. H. H. RUSBY.

(To be continued.)

TENTATIVE DEFINITIONS AND STANDARDS FOR CONDIMENTS OTHER THAN VINEGARS AND SALT.

January 1917.

The Joint Committee on Definition and Standards is considering the advisability of adopting the following definitions and standards for Spices. Any one interested is invited to present his views to the Committee in writing, addressed to Mr. John Phillips Street, New Haven, Conn., or to Mr. J. S. Abbott, Secretary of the Joint Committee on Definitions and Standards, Bureau of Chemistry, Washington, D. C.

1. *Spices* are aromatic vegetable substances used for the seasoning of food and from which no portion of any volatile oil or other flavoring principle has been removed, and which are clean, sound and true to name.

2. *Allspice, pimento,* is the dried* fruit of *Pimenta officinalis* (L.) Karts., and contains not less than eight percent (8%) of quercitannic acid (calculated from the total oxygen absorbed by the aqueous extract), not more than six percent (6%) of total ash, not more than three-tenths percent (0.3%) of ash insoluble in hydrochloric acid, and not more than twenty-five percent (25%) of crude fiber.

3. *Anise, aniseed,* is the dried,* ripe fruit of *Pimpinella anisum* L. and contains not more than nine percent (9%) of total ash, and not more than two percent (2%) of ash insoluble in hydrochloric acid.

4. *Bay leaves* are the dried * leaves of *Laurus nobilis* L.

5. *Capers* are the flower buds of *Capparis spinosa* L.

6. *Caraway, caraway seed,* is the dried* fruit of *Carum carvi* L., and contains not more than eight percent (8%) of total ash, and not more than one and five-tenths percent (1.5%) of ash insoluble in hydrochloric acid.

7. *Cardamom seed* is the dried* fruit of *Elettaria cardamomum* White and Eaton, and contains not more than eight percent (8%) of total ash.

Cayenne and Red Peppers.

8. *Red pepper* is the red, dried,* ripe fruit of *Capsicum.*

9. *Cayenne pepper, cayenne chilli,* is the dried* ripe fruit of *Capsicum frutescens* L., *Capsicum baccatum* L., or some other small-fruited species of *Capsicum,* and contains not less than fifteen per cent (15%) of non-volatile ether extract, not more than six and five-tenths percent (6.5%) of total ash, not more than one percent (1%) of ash insoluble in hydrochloric acid, not more than one and five-tenths percent (1.5%) of starch, and not more than twenty-eight percent (28%) of crude fiber.

10. *Paprika* is the dried,* ripe fruit of *Capsicum annuum* L., having the pungency and flavor characteristic of that grown in Hungary.

(*a*) *Rosenpaprika, rozsapaprika, rose paprika,* is paprika prepared by grinding specially selected pods of paprika, the placentae, stalks and the stems being removed, and contains no more seeds than are normal to the pods. It contains not less than fourteen percent (14%) and not more than eighteen percent (18%) of non-volatile ether extract, not more than six percent (6%) of total ash, not more than four-tenths percent (0.4%) of ash insoluble in hydrochloric acid, and not more than twenty-three percent (23%) of crude fiber.

(*b*) *Königspaprika, king's paprika,* is paprika prepared by grinding whole pods of paprika without selection and includes the seeds and stems naturally occurring with the pods. It contains not less than twelve percent (12%) and not more than eighteen percent (18%) of non-volatile ether extract, not more than six and five-tenths percent (6.5%) of total ash, not more than four-tenths percent (0.4%) of ash insoluble in hydrochloric acid, and not more than twenty-three percent (23%) of crude fiber.

(*c*) *Pimenton, pimiento,* is the dried,* ripe fruit of *Capsicum annuum* L., having the characteristics of that grown in Spain. It contains not less than eleven percent (11%) and not more than fourteen percent (14%) of non-volatile ether extract, and not more than eight percent (8%) of total ash, not more than five-tenths percent (0.5%) of ash insoluble in hydrochloric acid, and not more than twenty-one percent (21%) of crude fiber.

11. *Celery seed* is the dried* fruit of *Apium graveolens* L., and contains not more than ten percent (10%) of total ash, and not more than one percent (1%) of ash insoluble in hydrochloric acid.

12. *Cinnamon* is the dried* bark of certain species of *Cinnamomum,* from which the outer layers may or may not have been removed.

13. *True cinnamon, Ceylon cinnamon,* is the dried* inner bark of *Cinnamomum zeylanicum* Breyne.

14. *Cassia* is the dried* bark of certain species of *Cinnamomum,* other than *Cinnamomum zeylanicum,* from which the outer layers may or may not have been removed.

15. *Cassia buds* are the dried* immature fruits of certain species of *Cinnamomum.*

16. *Ground cinnamon, ground cassia,* is the powder consisting of cinnamon, cassia, cassia buds, or a mixture of these spices, and contains not more than five percent (5%) of total ash and not more than one percent (1%) of ash insoluble in hydrochloric acid.

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* The term "dried" as used in this schedule refers to the air-dried spice.

17. *Cloves* are the dried* flower buds of *Caryophyllus aromaticum* L., and contain not more than five percent (5%) of clove stems, not less than fifteen percent (15%) of volatile ether extract, not less than twelve percent (12%) of quercitannic acid (calculated from the total oxygen absorbed by the aqueous extract), not more than seven percent (7%) of total ash, not more than five-tenths percent (0.5%) of ash insoluble in hydrochloric acid, and not more than ten percent (10%) of crude fiber.

18. *Coriander seed* is the dried* fruit of *Coriandrum sativum* L., and contains not more than seven percent (7%) of total ash, and not more than one and five-tenths percent (1.5%) of ash insoluble in hydrochloric acid.

19. *Cumin seed* is the dried* fruit of *Cuminum cyminum* L., and contains not more than eight and five-tenths percent (8.5%) of total ash, and not more than one and five-tenths percent (1.5%) of ash insoluble in hydrochloric acid.

20. *Curcuma, turmeric,* is the dried* rhizome or bulbous roots of *Curcuma longa* L.; (*Amomum curcuma Jacq.*) or *Curcuma rotunda* L.

21. *Dill seed* is the dried* fruit of *Anethum graveolens* L., and contains not more than ten percent (10%) of total ash and not more than three percent (3%) of ash insoluble in hydrochloric acid.

22. *Fennel seed* is the dried* fruit of varieties of *Foeniculum vulgare* Hill, and contains not more than nine percent (9%) of total ash and not more than two percent (2%) of ash insoluble in hydrochloric acid.

23. *Fenugreek* is the dried* fruit of *Trigonella Foenum-graecum* L., and contains not more than five percent (5%) of total ash.

24. *Ginger* is the washed and dried,* or decorticated and dried, rhizome of *Zinziber officinale* Roscoe, and contains not less than forty-two percent (42%) of starch,† not more than eight percent (8%) of crude fiber, not more than seven percent (7%) of total ash, not more than one percent (1%) of lime, not more than two percent (2%) of ash insoluble in hydrochloric acid, not less than fourteen percent (14%) of cold water extract, and not less than two percent (2%) of ash insoluble in cold water.

25. *Limed ginger, bleached ginger,* is whole ginger coated with carbonate of lime, and contains not more than ten percent (10%) of total ash, not more than four percent (4%) of carbonate of lime, and conforms in other respects to the standard for ginger.

26. *Horse-radish* is the root of *Radicula armoracia* (L.) Robinson.

27. *Prepared horse-radish* is comminuted horse-radish with or without vinegar.

28. *Mace* is the dried* arillus of *Myristica fragrans* Houttuyn, and contains not less than twenty percent (20%) nor more than thirty percent (30%) of non-volatile ether extract, not more than three percent (3%) of total ash, not more than five-tenths percent (0.5%) of ash insoluble in hydrochloric acid, and not more than ten percent (10%) of crude fiber.

29. *Macassar mace, Papua mace,* is the dried* arillus of *Myristica argentea* Warb.

30. *Marjoram* is the dried* leaves, with or without a small proportion of the flowering tops, of *Marjorana hortensis* Moench, and contains not more than sixteen percent (16%) of total ash, and not more than four and five-tenths percent (4.5%) of ash insoluble in hydrochloric acid.

31. *Mustard seed* is the seed of *Sinapis alba* L. (white mustard), *Brassica nigra* (L.) Kock (black mustard), or *Brassica juncea* (L.) Cosson (black or brown mustard).

32. *Ground mustard* is the powder made from mustard seed, with or without the removal of the hulls and a portion of the fixed oil, and contains not more than one and five-tenths percent (1.5%) of starch† and not more than six percent (6%) of total ash.

33. *Prepared mustard, German mustard, French mustard, mustard paste,* is a paste composed of a mixture of ground mustard with salt, a vinegar, and spices which do not simulate the color of ground mustard; and calculated free from water, fat, and salt contains not more than twenty-four percent (24%) of carbohydrates (calculated as starch†), not more than twelve percent (12%) of crude fiber, and not less than five and six-tenths percent (5.6%) of nitrogen derived solely from the materials named above.

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* The term "dried" as used in this schedule refers to the air-dried spice.

† The term "starch" as used in this schedule refers to starch as determined by the official diastase method.

34. *Nutmeg* is the dried* seed of *Myristica fragrans* Houttuyn, deprived of its testa, with or without a thin coating of lime, and contains not less than twenty-five percent (25%) of non-volatile ether extract, not more than five percent (5%) of total ash, not more than five-tenths percent (0.5%) of ash insoluble in hydrochloric acid, and not more than ten percent (10%) of crude fiber.

35. *Macassar nutmeg, Papua nutmeg, male nutmeg, long nutmeg,* is the dried* seed of *Myristica argentea* Warb., deprived of its testa.

36. *Paradise seed, grains of paradise, Guinea grains, Melegueta pepper,* is the seed of *Amomum melegueta* Roscoe.

37. *Parsley leaves* are the leaves of *Petroselinum sativum* Hoffman.

38. *Black pepper* is the dried* immature berry of *Piper nigrum* L., and contains not less than seven percent (7%) of non-volatile ether extract, not less than twenty-eight percent (28%) of starch,† not more than six and five-tenths percent (6.5%) of total ash, not more than five-tenths percent (0.5%) of ash insoluble in hydrochloric acid, and not more than fourteen percent (14%) of crude fiber. One hundred parts of the non-volatile ether extract contain not less than three and twenty-five hundredths (3.25) parts of nitrogen.

39. *Ground black pepper* is the product made by grinding the entire berry of *Piper nigrum* L., and contains the several parts of the berry in their normal proportions.

40. *Long pepper* is the dried* fruit of *Piper longum* L.

41. *White pepper* is the dried* mature berry of *Piper nigrum* L., from which the outer coating or the outer and inner coatings have been removed, and contains not less than seven percent (7%) of non-volatile ether extract, not less than fifty-two percent (52%) of starch,† not more than three per cent (3%) of total ash, not more than three-tenths percent (0.3%) of ash insoluble in hydrochloric acid, and not more than five percent (5%) of crude fiber. One hundred parts of the non-volatile ether extract contain not less than four (4) parts of nitrogen.

42. *Peppermint* is the dried* leaves and flowering tops of *Mentha piperita* L., and contains not more than twelve percent (12%) of total ash.

43. *Saffron* is the dried* stigma of *Crocus sativum* L., without more than ten percent (10%) of yellow styles, and contains not more than six percent (6%) of total ash, not more than one percent (1%) of ash insoluble in hydrochloric acid, and not more than fourteen percent (14%) of volatile matter when dried at 100° C.

44. *Sage* is the dried* leaf of *Salvia officinalis* L., and contains not less than one percent (1%) of volatile ether extract, not more than ten percent (10%) of total ash, not more than one percent (1%) of ash insoluble in hydrochloric acid, and not more than twenty percent (20%) of crude fiber.

45. *Savory, summer savory,* is the dried* leaf, blossom, and branch of *Satureja hortensis* L., and contains not more than twelve percent (12%) of total ash, and not more than one and five-tenths percent (1.5%) of ash insoluble in hydrochloric acid.

46. *Spearmint* is the dried* leaves and flowering tops of *Mentha spicata* L.

47. *Star aniseed* is the dried* ripe fruit of *Illicium verum* Hook., and contains not more than five percent (5%) of total ash.

48. *Taragon* is the dried* young leaves and flowering tops of *Artemisia dracunculus* L.

49. *Thyme* is the dried* leaves and flowering tops of *Thymus vulgaris* L. and contains not more than fourteen percent (14%) of total ash, and not more than four percent (4%) of ash insoluble in hydrochloric acid.

REPORT OF THE SPECIAL COMMITTEE ON COMPULSORY HEALTH INSURANCE OF THE CHICAGO BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

The special committee appointed to consider the subject of compulsory health insurance respectfully reports as follows:

The Health Insurance Bill proposed by the American Association for Labor Legislation is a lengthy measure, consisting of 59 separate sections, providing for the compulsory insurance of

* The term "dried" as used in this schedule refers to the air-dried spice.

† The term "starch" as used in this schedule refers to starch as determined by the official diastase method.

certain classes of wage workers. The bill proposes methods for raising funds for meeting the expenses of such insurance, and provides for the creation of a State Social Insurance Commission and of certain other boards and committees which are to be charged with the administration of the various provisions of the act.

Because of the length and complexity of the proposed measure, and the close inter-relation of provisions distributed through the different sections—the effects of which can not be appreciated without long and careful study—and the further fact that the bill would require the state to assume new and unusual functions that are to be discharged through new and untried instrumentalities, your committee does not feel able at this time to present any final criticism or pronounce any final judgment thereon, and accordingly presents the following as a preliminary report or as a report of progress:

SOME LEADING FEATURES OF THE BILL.

A complete and critical analysis of all of the provisions of the bill would require many pages for its presentation, and therefore only a few of its more important features are given below.

Classes of Persons Insured.—Every person employed at manual labor under any form of wage contract, within the state, except home workers and casual employees, and every other worker who does not receive compensation in excess of $100.00 per month is to be compulsorily insured. "Home workers and casual employees" are to be provided for by special regulations of the Insurance Commission. Other exceptions are employees of the United States, or of the state or municipality for whom health insurance is already provided by legally authorized means.

Provision is also made for the voluntary insurance of self-employed workers and of members of the family of the employer and of certain other persons under specified conditions. (Secs. 3, 4 and 5.)

Insurance Benefits.—Insurance benefits under the proposed law are to consist of the following:

In case of any illness, or of accident or death not covered by workmen's compensation, and including all medical, surgical and nursing attention and treatment for the insured persons and of dependent members of their families, and medical and surgical supplies to the extent of $50.00 in any one year, together with a cash benefit equal to two-thirds of the weekly wage of the insured for 26 weeks, and in case of death a funeral benefit of $50.00. (Secs. 6, 7, 8, 9, 12, 15.)

Instead of home treatment the insured may be treated in a hospital or sanatorium, in which case the cash benefit shall be reduced to one-third of the weekly wage, and paid to the insured member's family. (Secs. 13 and 16.)

Maternity benefits are to be paid to insured women or to the wife or widow of an insured worker for six months during the year preceding confinement. (Sec. 8.) Additional benefits may be granted in certain cases. (Sec. 20.)

Cost and Contributions.—The cost of the benefits provided for in the bill is to be met by contributions from employers, employees and the state in the proportion of 40 percent by the employee, 40 percent by the employer, and 20 percent by the state. If the employee earns less than $9.00 per week his contribution is reduced in proportion and that of the employer correspondingly increased. (Sec. 22.)

The bill places no limit upon the funds which may be thus collected, but provides merely that the amount "shall be computed so as to be sufficient for the payment of benefits and the expenses of administration of the fund and necessary reserve and guarantee funds." (Sec. 23.)

In addition to its contribution of 20 percent of the benefit funds, the state is largely charged with the expenses of administration, such as the salaries of the Commissioners and their employees, and other matters. (Secs. 43, 44, 45, 46, 47, etc.)

MACHINERY OF ADMINISTRATION.

The machinery of administration is to consist of certain state bodies having a general supervision over the administration of the law, and of certain local or district bodies operating under the supervision of the state officials. The general or state bodies are to be a Social Insurance Commission, a Social Insurance Council, and a Medical Advisory Board.

The State Social Insurance Commission.—The supreme governing body is the State Social Insurance Commission, consisting of three members, one of whom shall be a physician, appointed by the Governor and paid by the state.

The Commissioners must give their whole time to the work, and may not have any other employment or hold any other political office or appointment.

The Social Insurance Commission is charged with the general work of administration, and with the supervision of the local or district funds and societies. (Secs. 43, 44, 45, 46, 47, 48, 49, 50, 51.)

The Social Insurance Council.—The Social Insurance Council is to consist of twelve members, six to be elected by the employer directors of the local funds and six by the employee directors of the local funds. Members are to hold office for two years, and to receive a per diem allowance and their necessary expenses while in attendance at meetings. Four regular meetings are to be held annually and such additional meetings as may be deemed necessary.

The duties of the Council are to pass upon regulations proposed by the Commission, and upon the annual report which the latter is to submit to the Governor.

Though it may pass and report upon such regulations and reports as are laid before it, it does not appear that the Council has any veto power over the acts of the Commission and is apparently merely an advisory body. (Secs. 52, 53, 54, 55.)

The Medical Advisory Board.—The Medical Advisory Board is to be chosen by the State Medical Societies. (Sec. 56.) The number of members of this board is not specified, nor is there given any definition of what shall constitute a state medical society within the meaning of the act. The indefiniteness of this section is sure to be provocative of many disputes.

The Medical Advisory Board must be consulted on medical matters (Sec. 56), and shall also pass upon all disputes between insured persons and physicians and between local funds and physicians before the State Social Insurance Commission may consider and decide such disputes. (Sec. 14.)

LOCAL ADMINISTRATIVE BODIES.

The local administrative bodies provided for consist of the local Insurance Carriers, referred to in the bill as "Carriers" or "Funds," together with Committees of the Fund, Boards of Directors, and Arbitration Committees.

Insurance Carriers or Funds.—The State Commission is to divide the state into districts, each of which shall contain not less than 5,000 persons subject to compulsory insurance, and in each of which there shall be established one or more local or trade funds to carry the insurance of those who are members of the respective funds, and which are to operate under supervision of the other local bodies and of the Social Insurance Commission. (Secs. 25, 26, 27, 28.)

Every person subject to compulsory insurance is by definition a member of the trade fund of his trade, or if there is no such special trade fund, a member of the local fund of his district. Employers are employer members of all funds of which any of his employees are members. (Sec. 34.)

Committees of the Fund.—For each of such local or trade funds there is to be a committee of not less than 20 nor more than 100 members, elected annually, one-half by employer members and one-half by employee members of the fund. The only apparent duties of the Committee of the Fund are to elect the Board of Directors and to pass upon the annual report and account submitted by the latter. (Secs. 29, 30.)

The Board of Directors.—The Board of Directors is to consist of not less than 8 nor more than 18 members, elected by the Committee for a term of one year, one-half representing the employer members and one-half the employee members of the fund.

The Board of Directors is charged with the general administration of the local fund, in accordance with the provisions of the constitution of the fund and under the supervision of the State Insurance Commission, and is required to accumulate a reserve from the annual income which shall be equal to one-sixth of the cash expenditures for the preceding three years.

Members of the Board of Directors are to receive $5.00 a day while attending meetings. (Secs. 31, 32.)

Arbitration Committees.—Arbitration Committees are appointed by the State Social Insurance Commission to pass upon disputes between physicians and insured persons or between physicians and the local funds, but the State Commission is prohibited from deciding any appeal from such Arbitration Committee until after the same shall have been passed upon by the State Medical Advisory Board. (Sec. 14.)

The above is a very brief and very incomplete presentation of the more salient features of the Health Insurance measure proposed by the American Association for Labor Legislation. A complete analysis of all of the features worthy of special study would require many times the space which can be devoted to it in this preliminary report.

SOME ALLEGED OBJECTIONS TO THE HEALTH INSURANCE BILL.

In a circular issued by the Insurance Economics Society of America it is alleged:

(1) That the law could not be enforced without exercise of the police power of the state.

(2) That the law could not reach and serve more than 25 percent of the persons nominally coming within its terms.

(3) That the state would collect a tax of $5.00 to effect a saving of $1.00.

(4) That the wage earner would be forced to pay $9.60 to save $4.80.

(5) That if the 33,500,000 wage earners of the country could be brought within the operation of the law it would create 3,350,000 discards who, because of age or physical disability, could not secure employment because of their uninsurable condition.

(6) That it would furnish employment or remunerative association for 250,000 politicians.

(7) That carrier funds to the amount of $150,000,000 annually would be politically controlled or administered.

(8) That it would permit a small percentage of physicians to control most of the industrial practice.

(9) That it would constitute an interference with religious liberty by compelling the medical examination of and medical treatment of Christian Scientists.

(10) That it would cost the State of Illinois the sum of $12,500,000 annually, or an addition equal to 83 percent of its present annual tax burden.

(11) That it would cost the employers of the State of Illinois, as contributors to the funds and in the form of taxes, the sum of $35,500,000 annually.

(12) That it would cost the wage earners of the State of Illinois $23,040,000 annually.

This committee does not vouch for the accuracy of the foregoing statements but presents them as the expressions of persons who have made a special study of health insurance and who should be well qualified to express opinions with reference thereto.

RECOMMENDATIONS.

This committee does not wish to be understood as being at present either in favor of or as opposed to legislation proposing to establish compulsory health insurance.

Rather it is our desire to study the whole subject in a purely judicial frame of mind, and to reach conclusions that shall be as nearly as possible devoid of partisan bias, or prejudice growing out of our professional relations to the sick. For the present, therefore, we submit for your consideration the two following recommendations:

(1) That the Committee on Health Insurance be continued, with instructions to continue its study of the subject of health insurance and to report thereon from time to time as it may deem advisable.

(2) That there be adopted and transmitted to the President of the Senate and to the Speaker of the House of Representatives of the General Assembly of the State of Illinois, as expressing the sense of the Chicago Branch of the American Pharmaceutical Association, the following resolution:

RESOLVED, That recognizing the importance of the subject of Compulsory Health Insurance and the evils of hasty and ill-considered legislation passed upon the initiative of bodies organized to promote such legislation, often *ex parte*, as it were, the Chicago Branch of the American Pharmaceutical Association earnestly recommends to the General Assembly of the State of Illinois that no bill providing for compulsory health or other compulsory social insurance be passed for the present; but, instead, that a commission be appointed of impartial men not committed on the subject, to investigate the whole question from every angle; to give all interested an opportunity to be heard and finally to report their conclusions to the next session of the General Assembly.

CHICAGO, ILL., February 23, 1917.

COUNCIL BUSINESS

A. PH. A. COUNCIL LETTER NO. 11.

PHILADELPHIA, PA., November 18,1916.

To the Members of the Council:

Motion No. 11 (Election of C. H. LaWall as a Member of the Committee on Recipe Book). In accordance with recommendation of Chairman Raubenheimer, of Committee on Recipe Book, F. M. Apple moves, seconded by Dr. F. E. Stewart, that Charles H. LaWall be elected a member of the Committee on Recipe Book to succeed H. P. Hynson, term expiring in 1920.

The following motion has been received:

Motion No. 12 (Fund for Proposed A. Ph. A. Home). Moved by H. M. Whelpley, and seconded by Otto F. Claus, that Dr. James H. Beal be appointed chairman of a special committee to raise funds for a proposed A. Ph. A. Home, and that Dr. Beal be authorized to select his own associates on the committee and requested to report progress from time to time.

The motion is open for discussion. A vote will be called for later.

For information it may be stated that at the first general session of the Association at Nashville in 1913 President Day referred in his annual address to the subject of an A. Ph. A. Home and recommended that it be thoroughly discussed in the general sessions and by the House of Delegates. The suggestion was reported upon at the final general session of the Association by the Committee on President's Address, as follows:

"We recommend that the Council be instructed to continue consideration of the project of a building to serve as headquarters for the Association. In this connection, the Committee suggests that the prospective structure be called the A. Ph. A. *Building*, because of the ambiguity of the word "Home," which has been used.

The report of the committee was referred to the Council with a favorable recommendation (Journal A. Ph. A., 1913, 1038, 1206).

At the final meeting of the Council for 1912–13, held at Nashville on August 18, 1913, William R. White offered on behalf of the Nashville Industrial Bureau to the American Pharmaceutical Association the right and title to one of several tracts of land situate in Nashville on condition that the Association build an appropriate structure. The offer was received and placed on record for future consideration.

Since this meeting no further action has been taken.

In re election of member of Committee on National Formulary to succeed Prof. C. Lewis Diehl, who resigned as Chairman of the Committee (C. L. No. 4, 8), M. I. Wilbert raises the point of order that Prof. Diehl is still a member of the Committee even though not Chairman, and an examination of the By-Laws seems to support this view.

Thus, Chapter VII, Article VII, reads as follows:

"Whenever deemed advisable by the Council, it shall after the publication of each addition of the National Formulary appoint a committee of fifteen members from the general membership of the Association, which committee shall have charge of the revision of the Formulary. This committee shall report annually, or as often as required, to the Council, and shall continue to serve until the edition for which it was appointed has been completed. Vacancies occurring in this committee shall be filled by the Council as quickly as is expedient."

Apparently, either the Council or the Committee itself may appoint the Chairman.

In connection with this subject, the following letter has been received from George M. Beringer:

"In the matter of motion regarding the National Formulary Committee presented in Council Letter No. 4 (and especially to the members of the Committee on Revision of Constitution and By-Laws in Letter No. 1), I am inclined to think that the point of order raised by Mr. Wilbert is well taken. Professor Diehl is still a member of the Committee. We certainly owe, as a matter of respect and courtesy to the retiring chairman, that we show our appreciation of his many years of service in the interests of the National Formulary by permitting the present status quo to hold.

"As there is no vacancy in the membership of the Committee, the nomination of Dr. Fantus was certainly out of order. When it comes to the selection of a chairman for this committee, my thought is that we must give

earnest consideration to see that the right person is selected. The chairman should be one who has taken an active interest in the last revision and who possesses the requisite qualifications for this post. If nominations for chairman are to be opened, then I desire to present another name, but my view is now that there should be no chairman selected until a new chairman is selected for the committee for the next revision.

"The present committee have, undoubtedly, completed the 'edition for which it was appointed.' The committee's continuation, as I understand the action of the Council, is solely for the purpose of correcting any palpable errors that may have crept into the work and not with the view of continuing a revision already completed and published.

"I had hoped that the Committee would make a report at the last meeting of the Association upon a method of revision to be carried out by the next committee of revision. That they failed to give timely consideration to this important subject is possibly due to the illness of the chairman.

"If a motion is necessary, I will move 'That the present status quo of the National Formulary Committee be continued.'

"In explanation of this, my intent is that the vice-chairman should continue and the committee should continue to perform such acts of correction as may be necessary in the present edition, but that all later revision work be left to the next Committee on National Formulary Revision to be appointed by the Council."

Very truly yours,
J. W. ENGLAND,
Secretary.

415 N. 33RD STREET.

A. PH. A. COUNCIL LETTER NO. 12.

PHILADELPHIA, PA., January 18, 1917.

To the Members of the Council:

Motion No. 20 (Election of Members, applications Nos. 51 to 67, inclusive) has received a majority of affirmative votes.

The Council is advised that at the January (1917) meeting of the New York Branch, Jeannot Hostmann was elected Council representative from the Branch.

The Council is advised also, that at the December (1916) meeting of the Washington Branch, Henry C. Fuller was elected Council representative from the Branch.

The following resolutions were passed by the Washington Branch:

Resolutions passed at a meeting of the Washington Branch of the American Pharmaceutical Association held December 27, 1916.

By the death of Martin I. Wilbert, one of the ablest representatives of the pharmaceutical profession, has been removed from the field of activity. Mr. Wilbert's many years in the active practice of his calling resulted in his obtaining a thorough knowledge of and a wealth of experience in all branches of pharmacy, and his wide acquaintance and association made him appreciative of the relations between his own and the allied professions of chemistry and medicine. His industry and his enthusiasm were unbounded and were typically characteristic of the man, and these qualities, together with his broad and tolerant outlook, and his kindly and genial nature, endeared him to his friends and begat the esteem of all his associates. He was one of the founders of the Washington Branch of the American Pharmaceutical Association and an energetic worker in its behalf.

Mr. Wilbert died on the firing line with many years of activity still before him, a comparatively young man, an inspiration to his immediate contemporaries and the youth of the pharmaceutical profession.

Be it resolved therefore by the Washington Branch of the American Pharmaceutical Association that the sincere sympathy of the officers and members be extended herewith to Mrs. Wilbert in her great loss and that a copy of these resolutions be transmitted to the Council of the American Pharmaceutical Association to be spread upon the records.

H. C. FULLER,
WYMOND H. BRADBURY,
LEWIS FLEMER,
Committee.

At the December (1916) meeting of the Philadelphia Branch, writes Secretary J. Ed. Brewer, during a discussion on the question, "What Disposition shall be made of the Year Book," the following points were emphasized:

1. The A. Ph. A. gives each member more than his dues will pay for, hence each year there is a deficit. This must be met with an increase of revenue or decrease of expenditures. The former can be brought about only by an increase of dues; the latter, most feasibly either by discontinuing the Year Book, or publishing it in the JOURNAL from time to time.

2. The continuance of the Year Book is absolutely necessary for the progress of American Pharmacy, for it is only by the use of this and allied works that any progress is made. Were it not for this systematized and carefully indexed account of what has been done, information which can now be obtained in a few moments, would be available only after an extended time- and patience-consuming search through many journals.

In accordance with this view, the following resolution was proposed and adopted:

Resolved, That the Philadelphia Branch go on record as favoring the continuance of the JOURNAL and the Year Book, as at present, and that any deficit which might occur be met with an increase in dues; and further, that the Secretary be instructed to send copies of this resolution to the Council and to the secretaries of the various Local Branches.

The Secretary of the Council received the following letter from Dr. James H. Beal:

"Your esteemed favor of December 28th, advising me of the adoption of a resolution appointing me Chairman of a committee to consider the project of establishing a permanent A. Ph. A. Headquarters, and to report a comprehensive plan for the establishment and maintenance of the same, came to hand while I was at Camp Walton, Florida.

"At the present time, I have so much A. Ph. A. work on my hands in connection with the Commission on Proprietary Medicines, the Committee on President's Address, and the National Drug Trade Conference, that I feel that I ought not to accept any additional association appointments. Please, therefore, return my thanks to the Council for the honor conferred upon me by the election to this committee and advise them that the appointment is respectfully declined."

Dr. Beal was written to and urged to reconsider his decision and his reply is as follows:

"Your kind favor of January 11 at hand. I do not feel that it would be just either to myself or to the Association to accept appointment on the committee to devise a plan for a headquarters building. Last year I gave more than fifty percent of my working time to A. Ph. A. affairs, and some hundreds of dollars expended in attending association meetings as a delegate. This year I have not accepted quite so many appointments, but I still have on hand the following:

"Chairmanship of the Commission on Proprietary Medicines.

"Delegate to the National Drug Trade Conference.

"Chairmanship of the Committee on President's Address.

"Chairmanship of the House of Delegates.

"Membership on the Committee to devise a Model Pharmacy Law.

"Each one of the above appointments will require a considerable expenditure of thought and time, and to assume any additional obligations at this time would not be wise.

"With best wishes, I remain, etc."

Motion No. 21 (Election of Members). The following applications for membership have been presented:

No. 68. John Albert Martin, Jr., 936 15th St., Denver, Colo., rec. by F. W. Nitardy and W. A. Hover.

No. 69. Stanley C. Clarke, 1275 Curtis St., Denver, Colo., rec. by F. W. Nitardy and J. W. England.

No. 70. Lewis M. Horwitz, 87 W. 50th St., Bayonne, N. J., rec. by Reuben J. Botkin and W. B. Day.

No. 71. George Byrd, 224 E. Spring St., Fayetteville, N. C., rec. by W. W. Horne and D. T. Briles.

No. 72. Frank Henry Gazzolo, 119–123 S. Green St., Chicago, Ill., rec. by Wm. B. Day and E. N. Gathercoal.

No. 73. Karl William Hoff, care Eli Lilly & Co., Indianapolis, Ind., rec. by Francis E. Bibbins and C. E. Lawson.

No. 74. J. B. Galloway, 1625 Van Buren St., Chicago, Ill., rec. by Wm. Gray and Wm. B. Day.

No. 75. Ignatius Kingman, East Grand Forks, Minn., rec. by H. M. Whelpley and J. W. England.

No. 76. Christian H. Schoenhut, 410 W. Superior Ave., Cleveland, Ohio, rec. by Henry M. Whelpley and J. W. England.

J. W. ENGLAND,
Secretary of the Council.
415 N. 33RD STREET, PHILA.

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.
Committee on Publication: J. W. ENGLAND, *Chairman;* G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, and the Editor-in-Chief of the JOURNAL, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio.*
Office of Publication, 253 Bourse Building, Philadelphia, Pa.

SPHAGNUM MOSS AS A SURGICAL DRESSING.

Necessity has developed a more extended use of sphagnum moss in Europe as a surgical dressing; however, it has been demonstrated that in some respects the moss is actually superior to cotton for this purpose.

During a recent meeting of the Pharmaceutical Society in Edinburgh, Alexander McCutcheon described the harvesting of sphagnum moss, and in the discussion which followed, a demonstration of the absorbent powers of the moss was made. The sample was tightly compressed, but the instant water was applied it swelled, and not only does the moss absorb relatively more water, but the absorption takes place both upwards and laterally and a discharge does not come through to the surface as is the case in the application of cotton, wherein the absorption is in one direction.

THE FIRST ENDOWED DRUG STORE.

According to the *Apothecary*, Middleboro, Mass., is to have an endowed drug store, when certain provisions of the will of David G. Pratt, once a member of the Governor's Council, become effective. Mr. Pratt's will, which disposes of an estate of $276,000, was admitted to probate in the Plymouth county probate court.

The entire estate is left to the widow, Mrs. Marion Grace Pratt, who is named as executor. Upon her death one-third of the estate is to be set aside as the "David G. Pratt trust fund" for the establishment of a pharmacy at Middleboro, where Mr. Pratt spent the greater part of his life. The establishment, the will provides, is to be in charge of a registered pharmacist, and supplies are to be furnished free to "deserving and needy persons" and also to "sojourners." A recommendation from a trustee or a physician will be necessary.

However, it is set forth that drugs and supplies will be sold for cash to those able to pay and that if any surplus accumulates this money is to be devoted to the building of roads and sidewalks.

THE ASPIRIN QUESTION.

At the meeting of the National Drug Trade Conference held in Washington, January 16, 1917, a committee was appointed "to inquire into and report as to whether the word 'aspirin' will become public property after the expiration of the Hoffmann patent on acetyl salicylic acid." This committee conferred with Messrs. R. S. and A. B. Lacey, patent counsel, of Washington, D. C., who have rendered the following opinion, which is submitted as the report of the committee to the conference and is released by the National Drug Trade Conference for the information of the drug trade at large, *but necessarily without assuming any obligation to any one who may choose to act upon the opinion.*

Space will not permit the publication of the complete report or opinion but is given in part only and also that of the attorneys for The Bayer Company, Inc. It will be readily seen that there are differences of opinion and that the question will very likely be decided in court.

BURDEN OF PROOF.

The burden of proving that aspirin has become a generic name will, of course, be upon the manufacturer or other person who enters upon the making and marketing of the drug and is sued for infringement of the trademark. It is thought, however, that the burden will not be excessive. Expressions used by the courts in the cases reported in 179 Fed. Rep., 707, and 203 Fed. Rep., 476, above mentioned, indicate that druggists and pharmacists used the term "aspirin" interchangeably with the term "acetyl salicylic acid," and are, therefore, persuasive that aspirin can and has become a generic name. These cases, moreover, are thought to establish beyond any question that the patent and not the trade-mark gave value to the article. The drug is fre-

quently referred to in newspaper articles as though it were a common well-known drug, the name being printed in the ordinary type without quotations, and without being distinguished in any way from the accompanying text and being mentioned in exactly the same manner as an apple or an orange would be mentioned.

An extensive advertising campaign has been incorporated within the last year by the Bayer Company, having for its object the identification of the Bayer Company with the manufacture of aspirin. The advertisements refer to Bayer tablets of aspirin, which in itself is a tacit admission that aspirin is a generic name of an article and is not a designation of the origin of the article. An advertisement before the writer, emphasizes an insignia consisting of a circular space or disk upon which the name "Bayer" appears in the form of a cross and, consequently, points to this insignia rather than to the name "aspirin" as a designation of the place of origin. It is true the advertisement contains a reference to the registration of the trade-mark "aspirin," but this reference is in such small type that it cannot counteract the admission to be inferred from the main text of the advertisement that aspirin has become a generic name.

For the reasons set forth it is thought the manufacture of the patented drug may be undertaken by any one after the expiration of the patent on the 27th inst., and that the drug may be marketed under the name "aspirin," provided it is so marked as to distinguish it from the product of Bayer & Co., for instance, "John Doe's Aspirin."

The registration of the trade-mark in foreign countries is thought to be immaterial, as the question to be answered is: Has the word "aspirin" become a generic name in the United States for pure acetyl salicylic acid?

The word "aspirin" is not used as a trade-mark unless it is applied to the goods or the packages containing the same. Hence, it is permissible to mark the packages acetyl salicylic acid and in newspapers and circulars advertise the fact that aspirin and acetyl salicylic acid are the same thing. Such a course seems to have been judicially sanctioned in Celluloid Mfg. Co. *vs.* Cellonite Mfg. Co., 32 Fed. Rep., 94, a decision of the Circuit Court prior to the decision of the Supreme Court in the Singer case.

Respectfully submitted,

R. S. & A. B. LACEY,
A. B. LACEY.

OPINION OF GIFFORD & BULL, ATTORNEYS FOR THE BAYER COMPANY, INC.

The following letter from Gifford & Bull, attorneys for The Bayer Company, Inc., sets forth the grounds upon which that company is acting:

In my opinion your right to the exclusive use of "aspirin" as a trade-mark to distinguish the Bayer manufacturers of acetyl salicylic acid will not expire with the patent. In forming this opinion I have fully considered the Singer, Lanolin and other decisions. None of them are applicable. The facts appertaining to "aspirin" are the reverse of those upon which such decisions depended. Some of these facts are the following:

1. The patent itself gave the name "acetyl salicylic acid" to the therapeutical substance, and the most that the public can acquire by the expiration of the patent is the right to designate the substance by that name.

2. Prior to the issue of the patent, February 27, 1900, the name "aspirin" had been adopted and applied as the trade-mark distinguishing the Bayer manufacture both in this country and abroad.

2. "Aspirin" was registered as the trade-mark of the Bayer manufacture in the United States Patent Office May 2, 1899, and therefore prior to the date of the patent, and no subsequent patent can detract from the exclusive rights acquired by this registration under the trade-mark statute.

4. In all foreign countries the therapeutical substance of Bayer manufacture is distinguished by the name "aspirin" from all other manufactures of the same substance which are designated by the name "acetyl salicylic acid," or its translation, often coupled with the name of the house manufacturing it, or even by arbitrary names which were registered by the manufacturers as independent trade-mark names.

5. "Aspirin" was registered as the trade-mark of the Bayer manufacture not only in the United States, but in most civilized countries.

6. During the term of the patent the substance was imported extensively into the United States by infringers as acetyl salicylic acid in defiance of the United States patent, and was known and sold by druggists all over the country.

7. By no act or word have you ever indicated the intention to dedicate the name "aspirin" to any other manufacture of the article, but in labels, advertisements and propaganda you have informed the public that this name was not that of the article, but of the Bayer manufacture thereof.

8. Official publications, such as the Pharmacopoeia, the Dispensatory, the publications of the American Medical Association, and the government literature, have applied the name "Acetyl Salicylic Acid" to the therapeutical substance.

9. The purity and uniformity of the Bayer manufacture have been so jealously guarded in all the "aspirin" sold ever since its introduction in all countries of the world that the value of the trade-mark "Aspirin" as the representative of this purity and uniformity rises superior to that of the United States patent, both with respect to the public and yourselves, particularly in view of the therapeutical uses of the substance.

10. "Aspirin" has been sold with the following statement, or its equivalent, on the label:

"The name of the substance is 'Monoaceticacidester of salicylic acid.' The word 'aspirin' identifies it as the manufacture of the Farbenfabriken vorm. Friedr. Bayer & Co., Leverkusen, Germany, or of the assignee of its manufacturing good will in the United States."

The label also contained the following:

"The word 'aspirin' is also protected by registered trade-mark No. 32805."

All of the above facts concur in supporting the conclusion that your exclusive rights in the trade-mark "aspirin" will in no way be affected by the expiration of the patent on acetyl salicylic acid.

Yours truly,

(Signed) LIVINGSTON GIFFORD.

REVISED C. V. D. A. BROCHURE.

A Revised C. V. D. A. Brochure has been prepared by George Engelhard with the assistance of the officers of the Chicago Veteran Druggists' Association, and is from the press of the *Western Druggist*, published by G. P. Engelhard & Co.

The object of this interesting booklet is to preserve a record of the members who have gone before, as well as of those who now comprise the membership. The work of the publishers is excellent and the engravings of the members are well arranged. There are also a number of illustrations that present the members in groups on various occasions and form a part of the history of this organization. On the cover is a carnation and under it the inscription, adopted by the Association as a motto, "Cheers for the living—tears for the dead." The occasion for the presentation was the twentieth anniversary, and the booklet is dedicated to the founder, Thomas Nevin Jamieson.

STANDARDS FOR EDIBLE VEGETABLE FATS AND OILS.

The U. S. Department of Agriculture in F. I. D. 169 outlines the following definitions for edible vegetable fats and oils:

Edible fats and edible oils are such glycerids of the fatty acids as are recognized to be wholesome foods. They are dry and sweet in flavor and odor.

Cacao butter, cocoa butter, is the edible fat obtained from sound cacao beans (*Theobroma cacao* L.), either before or after roasting.

Coconut oil, copra oil, is the edible oil obtained from the kernels of the coconut (*Cocos nucifera* L., or *Cocos butyracea* L.).

Cochin oil is coconut oil prepared in Cochin (Malabar).

Ceylon oil is coconut oil prepared in Ceylon.

Corn oil, maize oil, is the edible oil obtained from the germ of Indian corn, maize (*Zea mays* L.).

Cottonseed oil is the edible oil obtained from the seed of the cotton plant (*Gossypium herbaceum* L.), or from the seed of other species of Gossypium.

Olive oil, sweet oil, is the edible oil obtained from the sound, mature fruit of the olive tree (*Olea europaea* L.).

Palm kernel oil is the edible oil obtained from the kernels of the fruit of the palm tree (*Elaeis guineensis* L., or *Elaeis Melanococca* Gart.).

Peanut oil, arachis oil, earthnut oil, is the edible oil obtained from the peanut (*Arachis hypogaea* L.).

Poppy seed oil is the edible oil obtained from the seeds of the poppy (*Papaver somniferum* L.).

Rapeseed oil, rape oil, colza oil, is the edible oil obtained from the seed of the rape plant (*Brassica napus* L.), or from the seed of closely related Brassica species, which yields oils similar in composition and character to the oil obtained from the seed of *Brassica napus* L.

Soy bean oil, soy oil, soja oil, is the edible oil obtained from the seed of the soy bean plant (*Glycine soja* L., *Soja hispida, Sieb et Zucc., Soja max.* (L.) Piper).

Sesame oil, gingili oil, teel oil, benne oil, is the edible oil obtained from the seed of the sesame plant (*Sesamum indicum,* De Candolle, *Sesamum radiatum,* Schum and Thonn, *Sesamum orientale* L.).

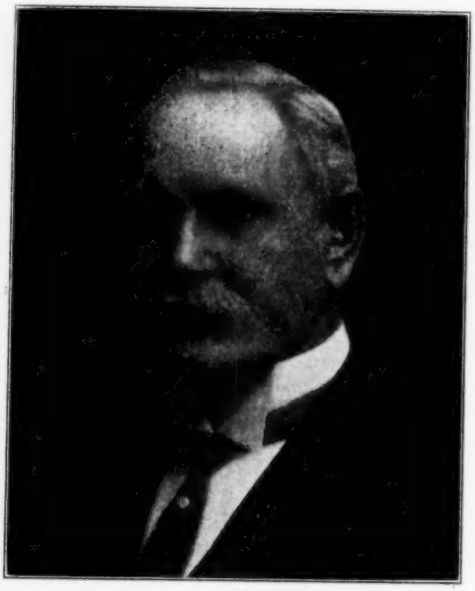
Sunflower oil is the edible oil obtained from the seed of the sunflower (*Helianthus annuus* L.).

OBITUARY.

WILLIAM CHARLES ALPERS.

By the passing away after a lingering illness of William C. Alpers, ex-President of the American Pharmaceutical Association, on February 20, 1917, at Cleveland, Ohio, not alone the pharmaceutical but the related professions have suffered a great loss. It was a sad ending of a brilliant and very promising career.

Dr. William C. Alpers was born at Hanover, Germany, on July 7, 1851. He attended the gymnasium and the Technical High School of his native city, where he completed his preparatory studies and afterward entered the University of Göttingen, specializing in natural sciences and mathematics. His studies were interrupted by the Franco-Prussian War in 1870, in which he took part and was decorated with the Iron Cross. After the war he came to the United States, and for nearly ten years was active as a teacher at the St. Matthews Academy of New York. He was a student at the New York College of Pharmacy and also took a course in chemistry at the New York University and was awarded the degree of Doctor of Science.



WILLIAM CHARLES ALPERS
Sixty-Third President American Pharmaceutical Association

In 1881 Dr. Alpers opened a pharmacy in Bayonne, New Jersey, where he remained until the year 1898. Becoming a member of the New Jersey Pharmaceutical Association, he was elected its president in 1896. In 1890 he joined the American Pharmaceutical Association and was elected chairman of the Scientific Section in 1896, First Vice-President of the Association in 1903, chairman of Section on Practical Pharmacy and Dispensing in 1906 and chairman of the Historical Section in 1913. In 1914 he was elected president of the American Pharmaceutical Association and occupied the chair at its 64th Annual Convention held at Atlantic City, September 5–9, 1916.

Moving from Bayonne to New York City, Dr. Alpers conducted the Merck Pharmacy and later on the Alpers Pharmacy at Broadway and Thirty-first Streets, until 1905, when he retired from business. He was a member of the Committee of Revision of the United States Pharmacopoeia and chairman of the sub-committee on Syrups and Elixirs. He also served three terms as a trustee of the New York College of Pharmacy until he received a call as professor of pharmacy from the Western Reserve University School of Pharmacy, of Cleveland, Ohio, of which he was Dean. This position he occupied until shortly before his death.

When the American pharmacists made a tour of Europe in July, 1914, he acted as chairman of the Tourists' Committee and was a ready spokesman whenever the occasion required an eloquent speaker, which all participants of the memorable trip will acknowledge and remember.

Dr. Alpers was also a very brilliant writer and the author of many valuable contributions to pharmaceutical literature; among his books are two published by the J. B. Lippincott Co.; "The Medicinal Plants of Staten Island" and "The Pharmacist at Work." For many years he was on the editorial staff of the *Deutsch Amerikanische Apotheker Zeitung*.

Dr. Alpers was twice married. Besides his widow he leaves two sons, both graduates in pharmacy of the New York College of Pharmacy, William H. Alpers, of Los Angeles, California, and Otto Alpers, of Brooklyn, and four daughters by his first marriage.

The obsequies took place at the chapel of the New York Bay Cemetery, Jersey City, N. J. Rev. Paul Lemke, of Passaic, delivered a very impressive review of the deceased's remarkable career.

The funeral was largely attended by rel-

atives and friends. There were many floral tributes, among them a beautiful wreath of lilies and violets from the Western Reserve University School of Pharmacy, Class 1917; another from the German Apothecaries Society of New York, and a large number of individual floral offerings. Among the pallbearers were President Robert S. Lehman, Emil Roller and George Bruns, of the German Apothecaries Society. The American Pharmaceutical Association was represented by President-Elect Charles Holzhauer, ex-Presidents H. H. Rusby, Caswell A. Mayo and E. G. Eberle; the Columbia University College of Pharmacy by Dean Henry H. Rusby, and the New Jersey State Board of Pharmacy by F. A. Bongartz. Among others present were Charles W. Holzhauer and E. A. Sayre.

"Death is the liberator of him whom freedom cannot release, the physician of him whom medicine cannot cure, and the comforter of him whom time cannot console."—*Colton.*

HUGO KANTROWITZ.

(Other sketches of the deceased may be found in Vol. III, p. 1722, and Vol. IV, pp. 1014, 1086, of the JOURNAL A. PH. A.)

IN MEMORY OF WILLIAM C. ALPERS, EX-PRESIDENT A. PH. A.

H. H. RUSBY.

America had few, if any, more earnest advocates of all that was best in pharmacy, or more enthusiastic workers for its promotion than Dr. Alpers. I can not recall ever having met him in private conversation that he did not at once or very shortly introduce this subject. He was an earnest student of both the theoretical and practical divisions of the subject, and an intelligent coördinator of the two. He was not only far-sighted in appreciating the greater practical capacity of the man who was well grounded in fundamental theory, but possessed a keen appreciation of the advantages to the profession of having a really educated membership. He improved himself as he sought to improve others. His beginning in American pharmacy was of a low order as to preparation and personal equipment, but he started at once on a career of self-improvement, in which he never rested or wearied until he had qualified himself for the highest honor in the possession of the profession in America to bestow.

In his professional work he practiced what he preached, the strictest adherence to principles of honesty and professional honor. It is not likely that any living person can point to a slip of his in the discharge of either obligation. Now that he is gone, everyone who was familiar with these precepts and this example will gratefully treasure the memory.

It was in his educational work that Dr. Alpers exhibited his best and most characteristic self. He was foremost among American teachers in his exhibition of fidelity, earnestness and industry, as seen in his work at the Cleveland School of Pharmacy. We recognize in his work rare qualities of a teacher, and are happy in the belief that to others who know of it, it proved, and will continue to prove, a strong inspiration to do the best in their own fields of service. Such assistance they can well receive even while noting some features in the work of their deceased associate, as is true of that of all, that might be improved upon.

Thus, as has been said of so many noble workers in our profession who have fallen out of the ranks in recent years, the good that Dr. Alpers has done shall live after him.

J. U. LLOYD.

Your card is the first advice I have received concerning the death of Dr. Alpers. This event I very much lament, because of the good work he aimed to accomplish in pharmacy, his aggressive processes in what he believed to be best for pharmacy, and his scientific ability united therewith.

For several decades I have known Dr. Alpers, have enjoyed visits with him in pharmaceutical meetings, and journeyed with him on excursions connected with these meetings, and on these occasions I always found occasion to admire his enthusiasm in the direction of botanical, pharmaceutical and chemical problems that were continually appearing during such opportunities for personal contact. The passing of Dr. Alpers impresses me anew with the continually recurring similar events, that indicate to me that personal companionships I have enjoyed in pharmaceutical meetings, are with me fast becoming reminiscences of the past. However, the faces and personalities of these long-time friends are no less real to me now, than in the days when they were present in our society.

JOSEPH L. LEMBERGER.

The death of our late friend, Dr. Alpers, was a great shock to me, as I had not learned of his serious illness.

Dr. Alpers was a man of more than ordinary ability and his advancement to positions of responsibility is an evidence of his merit. He had a personality peculiar to his native endowment and always possessed the courage of his convictions and, whether right or wrong, had the ability to defend his views.

I regret most sincerely that death claimed him at this time. His wife and family certainly have the sympathy of those associated with him in the American Pharmaceutical Association, and with one heart and soul, we say, "Requiescat in pace."

JOSEPH P. REMINGTON.

The death of William C. Alpers must have come as a shock to his friends. While it has been known that he was in precarious health for the last year, few of his friends realized that he was nearing the end.

Professor Alpers was ambitious to bear his full share of responsibility in matters pharmaceutical and he did not shirk any duty that he realized was his. He was an idealist and a most energetic worker. He was a forceful speaker with the gift of language and the ability to express his views clearly. He was courageous and never hesitated to "speak out in meeting." He cared very little for the opinions of the majority, and such men are rare. The painful malady with which he was afflicted undoubtedly influenced his judgment at times, but his earnestness and faithfulness to his ideals will cause the name of William C. Alpers to be remembered by the members of the American Pharmaceutical Association for many years.

J. W. ENGLAND.

I am very sorry to learn of the passing of William C. Alpers. He was one of the "war horses" of the American Pharmaceutical Association and he will be missed. Joining the Association twenty-seven years ago, he became an "active member" in deed as well as in name. Critical, observant and aggressive in fighting for what he believed to be the right, he was, also, a dreamer. He never lost the martial spirit of his early training in the Franco-Prussian War and he never lost the visions of his manhood. He was preëminently a teacher, educator, historian; and a ready and voluminous writer. The influence of his work will remain through the years to come.

I have said that he was a dreamer, using the word in no sense by way of reproach, because the dreams of men make the deeds of men possible. Without vision no one can see the light. I recall the beautiful word-picture he painted several years ago in the JOURNAL on "Fields and Woods in June," and think how typical his story is. He wrote, in part:

"In our enjoyment of the beautiful June air we do not notice that the sun is going down; the shadows of the trees grow longer and the enchanting charm of the forest twilight gradually surrounds us. We know that it is time to leave the woods, as we might lose our way if total darkness befalls us here; and yet we linger, drawn back by the hands of fairies and sylvan spirits. Here and there a sudden light flares up. Fireflies have lit their candles and show us our way—the first announcers of the concert that is to come. They arranged the notes and instruments. Here and there a chirp, a rasp is heard, like the tuning of the string before the real performance begins. Everything is ready and full of inspiration drawn from the beautiful June night, the thousands of nocturnal choristers of the grass sing without end; each in itself perhaps without account and not much to listen to, but the blending is restful and charming and almost overwhelming.

"And now comes the soloist of the orchestra, a tree toad, that sings its note with a serious deep voice, but full of enthusiasm. The chirping of the bugs is more than a summer's monotonous lullaby, it becomes the musical background of a more skilled performer and assumes a new higher quality. Suddenly the soloist ceases and it appears as if everybody was quiet; the solemnity and grandeur of a June night seems for a moment to overpower all the other charms. Then he begins again and anew the little buzzers and chirpers intonate their songs.

"As we listen in rapture we try to analyze the performance and identify the individual performer, the cricket, the grasshopper, the locust, the golden beetle and others. But we fail in our task and wearily close our eyes, not to sleep, but to relax into a sweet vagrant reverie. Dream pictures appear before us as from the embers of an open fireplace in midwinter. Sweet recollections of our childhood and scenes of days long past and almost forgotten arise in our minds, and the untiring song of nature recalls the harmonies of a Beethoven sonata or Liszt's rhapsody to our ears, when, in the circle of a contented family,

we mused in the twilight while a beloved one, long departed, gently touched the keys with magic finger."

And so it is with human life. We are born. We live and move and have our being. We dream our dreams and have visions. We do our little bit of work for Nature and Nature's God. And then comes—peace.

E. G. EBERLE.

"Death is capricious in his exactions, but at last everyone must obey his summons."

The American Pharmaceutical Association has rarely met, if ever, without having to regret the loss of some of the membership, for whom death has opened the gateway through which all pass out of this life into that which lies beyond. And so, while the death of ex-President, William C. Alpers, was not unexpected by those who knew of his condition, it, nevertheless, comes as a great shock. Dr. Alpers had not been a well man for a year or more; the more acute condition began to develop last summer and the seriousness was fully recognized soon after his return to Cleveland from the Atlantic City meeting.

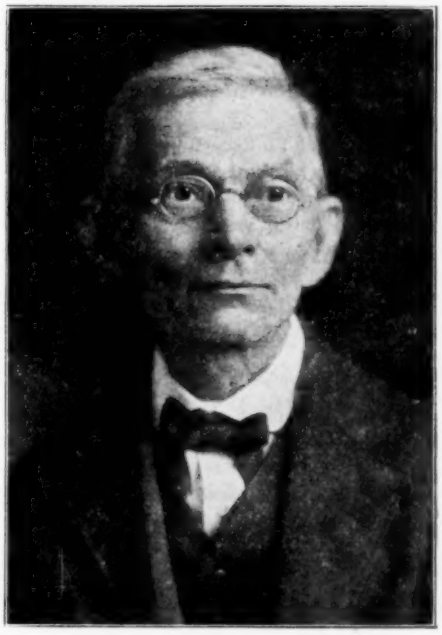
The acquaintance of the writer with the deceased is largely that of a member of the Association and as a contributor to the JOURNAL. During his year as President of the American Pharmaceutical Association, he contributed quite a number of articles and all of them show his deep interest in pharmacy as a profession, and quite naturally, among the qualities that were impressed on the writer are those of splendid command of language which he was able to make use of in speech as well as diction. His work has impressed the American Pharmaceutical Association and pharmacy in general. The sympathy of the American Pharmaceutical Association goes out to those who have been bereaved of a loving father and husband, while lamenting the loss of a very active member.

JOHN FREDERICK LLEWELLYN.

J. F. Llewellyn, life member of the American Pharmaceutical Association, died at his home in Mexico, Mo., January 25th, following an attack of heart disease. Mr. Llewellyn had not been in the best of health for some time but his sudden death came as a great shock to his family and fellow citizens.

The deceased was a native of Kentucky, born in Louisville, September 13, 1845. His parents were Robert Llewellyn and Abbie Knott Llewellyn, natives of England. Mr. Llewellyn was a lineal descendant of Llewellyn ap Gryffydd, the last Welsh prince who fought to establish independence for Wales. He was also related to Robert Peel, British Premier, and John Bright, Speaker of the British House of Commons.

Mr. Llewellyn received his early education in the public schools of Louisville, and his first engagement in the drug business was with the Louisville Chemical Works. He afterwards engaged with George H. Carey, with whom he remained for seven years. In 1867



JOHN FREDERICK LLEWELLYN

he came to Mexico and established a drug business which is now continued by his sons. His sterling qualities as a man, as well as his personal popularity, not less than his thorough knowledge of pharmacy and strict attention to business built up his successful business.

Mr. Llewellyn always took an intelligent and public-spirited interest in the general affairs of his home city and manifested a great zeal for its advancement and improvement. October 2, 1879, he was married to Miss Callie Duncan, of Mexico, who survives him. He leaves three sons, Henry D., Frederick W. and R. Merrit; and one daughter,

Mrs. Abbie Snoddy. The sons were associated with the father in business and will continue the store, and one of them writes that the store will not only be continued under the same name as heretofore, but conducted along the same lines established by his beloved father.

Mr. Llewellyn was a life member of the Missouri Pharmaceutical Association and served as president of that organization. He was a regular contributor to the Proceedings of that Association and quite frequently of the American Pharmaceutical Association, his subjects always being along the lines of historical pharmacy and medicine.

Mr. Llewellyn was interested in a number of enterprises of his home city and active in the various Masonic bodies. The local paper referred to the deceased as the best known citizen of Mexico. Mr. Llewellyn was a great lover of art and music and had collected a very extensive library. The thorough use of the latter is indicated by his many contributions. The high regard in which he was held was evidenced by the large attendance of the funeral services in the Presbyterian Church, of which he was an honored member and elder.

CYRUS JOSEPH LAMMERT.

Cyrus J. Lammert, a member of the Cincinnati Branch, A. Ph. A., was born in Cincinnati, April 27, 1861. He attended the public schools here, and graduated from St. Xavier College. He went into business for himself at the age of 27, having purchased the drug store at the corner of Fourth and Smith Streets, in 1881. He conducted this store for a number of years with success. After selling this, he bought the drug store at the corner of Fifth and Main Streets, which he sold a number of years later and then again located at Park avenue and McMillan Street, Walnut Hills.

Each one of these stores he conducted with considerable financial gain, and after disposing of the store at Park Avenue and McMillan Street, retired from business. He then made an extended tour of Europe, but, upon his return to Cincinnati, concluded that he was too young to retire; and anyhow "Joe" Lammert was one of those intense, high-strung sort of fellows, who could not be satisfied, if idle. He therefore connected himself with the Stein-Gray Drug Co. and had charge of their city business as long as this concern remained in business; thereafter he became manager of the Cincinnati branch of the Bishop-Babcock-Becker Co., manufacturers of soda fountains. After several years in this position, this company abandoned their branch office, whereupon Mr. Lammert purchased the drug store at the corner of Burnet and Albany Avenues, Avondale, and after conducting same for about two years, he sold it and became assistant manager of the Cincinnati Economy Drug Co., the position he held until his death. He graduated from the Cincinnati College of Pharmacy in 1882.

"Joe" Lammert passed away the 13th of February, and the funeral services were held at the Cincinnati Crematory, February 15, 1917.

CHARLES A. APMEYER.

SOCIETIES AND COLLEGES.

NEXT ANNUAL MEETING OF NATIONAL ASSOCIATION OF RETAIL DRUGGISTS.

Plans for the next annual convention of the National Association of Retail Druggists, to be held in Cleveland next September, have already been made by the local organization. The Hotel Hollenden, most centrally located hostelry in Cleveland, has been obtained for the sessions and the Drug Show to be held in conjunction with the event. Two large ballrooms, which can be made into one, will house the show. Other details will be worked out at future meetings of the local association.

COMMITTEES OF THE DRUG TRADE SECTION NEW YORK BOARD OF TRADE AND TRANSPORTATION.

The committees for 1917 of the Drug Trade Section, New York Board of Trade and Transportation, have been announced as follows:

Membership Committee.—Frank C. Starr, Stanley P. Jadwin, E. C. M. Kemp, Frank L. McCartney and Edward Plaut.

Committee of Jobbing Druggists.—William P. Ritchey, *chairman*, and one representative from each jobbing house in the drug trade section.

Committee on Legislation.—H. C. Lovis,

Thomas F. Main, William Jay Schieffelin, Charles S. Little and Jacob Weil.

Committee on Arbitration.—I. Frank Stone, S. W. Fairchild, Herbert B. Harding, Oscar W. Smith and C. F. Butz.

Committee of Importers of Drugs and Chemicals.—Franklin Black, C. P. Schlicke, George Simon, Charles A. Loring and August A. Wasserscheid.

Committee of Manufacturing Pharmacists.—H. R. Planten, L. N. Upjohn, Charles Lamont, Edward Zink and Mr. Parry.

Committee of Importers of Essential Oils.—Joseph Mathias, C. Beilstein, Carl Vietor, C. B. Layton and O. A. Brown.

Committee on Tares.—Irving McKesson, William Archibald, M. J. Breitenbach and Mr. Essig.

RESOLUTIONS UPON THE DEATH OF M. I. WILBERT, OF THE NATIONAL DRUG TRADE CONFERENCE.

At the annual meeting of the National Drug Trade Conference, held in the City of Washington on January 16, 1917, there was passed a resolution appointing the undersigned committee to draft suitable resolutions upon the death of Martin I. Wilbert, who although not an official delegate to that Conference, nevertheless, met with its members at all their meetings since its organization as a representative of the Bureau of Public Health and Marine Hospital Service.

Being deeply impressed with the feeling that Martin I. Wilbert was one of our best friends, was a splendid type of man in every respect and a real well-wisher and helpful, confiding friend of the drug trade of the country, and of this Conference in particular, which caused him to give it his enthusiastic and wholehearted support for the betterment of the conditions of the drug trade and of all his fellow-citizens as beneficiaries of that trade, we esteem it a great privilege to enroll upon the records of the National Drug Trade Conference the following expressions of our high regard for him as a man, a pharmacist and a friend and of our great regret and profound sorrow at his far too early removal by death from our midst and from the many sincere friends which his helpful, willing and highly capable life had so much benefitted:

WHEREAS, it has pleased Almighty God to take from our midst our esteemed and devoted friend and fellow worker, Martin I. Wilbert, and

WHEREAS, we, the members of the National Drug Trade Conference, feel that we have thereby lost a staunch friend, a capable, talented and willing coworker with us for the lasting betterment and advancement of the pharmaceutical profession of the country and a devoted protagonist of the highest principles and ethics of that profession; and

WHEREAS, we further desire to make known to his friends and family the high regard in which we held him and the great loss which we feel the pharmaceutical profession has sustained through his premature demise; now therefore be it

RESOLVED, that we hereby give expression to our sorrow at his untimely end, our high appreciation of his many sterling qualities that endeared him at all times to us and our heartfelt sympathy to his family and to all those who sincerely and truly mourn his loss; and be it further

RESOLVED, That a copy of these resolutions be made a part of the minutes of the proceedings of the National Drug Trade Conference of January 15, 1917, and that a further copy be sent to his family.

Respectfully submitted.

(Signed) ALFRED R. L. DOHME, *Chairman.*

S. L. HILTON,

J. H. BEAL.

AMERICAN DRUG MANUFACTURERS' ASSOCIATION.

The Medicinal Manufacturers' Association, which sat down to its Sixth Annual Meeting at the Waldorf-Astoria, February 6, as the National Association of Manufacturers of Medicinal Products, arose from its last session, February 7, as the American Drug Manufacturers' Association, the name by which it will be known henceforth.

In the interval, it provided for two notable movements of practical scientific interest; adopted a constructive program on the narcotic situation; renewed its membership in the National Drug Trade Conference and the United States Chamber of Commerce; endorsed one-cent letter postage, compulsory arbitration in railroad disputes and the candidacy of Ellwood Hendrick for the Tariff Commission; and passed resolutions condemning government opposition to Scientific Management, advocating a wider and more equitable distribution of Federal taxes, and commending the Pan-American Trade-mark Registration

idea and the International Trade-Mark Bureau established at Berne, Switzerland.

It also elected the following officers for the ensuing year: *President*, Chas. J. Lynn, of Indianapolis; *Vice-President*, R. C. Stofer, of Norwich, N. Y.; *Treasurer*, Franklin Black, of New York City; *Secretary*, W. J. Woodruff, of Detroit. The Executive Committee will be composed of these officers and Dr. A. R. L. Dohme, of Baltimore, B. L. Murray, of Rahway, N. J., and C. M. Woodruff, of Detroit.

In addition to the regular sessions of the Convention and a special meeting at which a Biological Section was organized, scientific experts from nearly all the firms of the membership assembled and adopted a plan of cooperative investigation that Professor Rusby predicted would rank as one of the most valuable works ever undertaken in pharmacy. Under a control committee of five to be known as the Committee on Standards and Deteriorations, a larger committee composed of one expert from each house will undertake to determine whether or not a uniform rate of deterioration can be established for a given product and whether or not it is practical to fix standards for preparations that will be least subject to deterioration.

To this body was also assigned the stupendous task of compiling a synoptical genesis of the United States Pharmacopoeia and the National Formulary, showing the source of each preparation and the successive changes that have been made in the standards and tests for purity, strength and quality since the first editions.

As its program on the narcotic situation, the Association decided to urge the National Drug Trade Conference to call a conference of delegates from all organized agencies interested in the solution of the problem, including organizations of government officials. This larger conference, they propose, shall then determine what amendments are necessary to strengthen the Harrison Act, and also draught a model state law that will effectively supplement it.

Under the greetings from kindred Asssociations that featured the first session, Prof. Arny, speaking in behalf of the American Conference of Pharmaceutical Faculties, urged the value of Industrial Fellowships, in which he suggested that the manufacturer turn over research problems to the college to be worked upon by a selected graduate at the expense of the manufacturer, while Prof. Rusby, who represented the A. Ph. A., dealt ably with inconsistencies of the United States Pharmacopoeia, illustrating his remarks by several striking examples. In his address, President Lynn recommended the support of the Association to President Wilson's railway program, proposed the narcotic program adopted by the Association and urged strong action on the opposition of Congress to scientific management. The Secretary's report urged the necessity of more constitutional treatment for the evil conditions that are affecting the drug trade. At the banquet, Major-General Wood delivered a notable talk on the stimulation to medical discovery occasioned by war. He quoted a number of examples from the Spanish-American War and stated that the success of the Panama Canal is as much attributable to these discoveries as to any other factor.

The American Drug Manufacturers' Association will enter on its sixth year with forty-two members, seven applicants having been admitted to membership at this meeting: Davies, Rose & Co., of Boston; The Digestive Ferments Co., of Detroit; Harshaw, Fuller & Goodwin Co., of Cleveland; Hynson, Westcott & Dunning, of Baltimore; Lloyd Brothers, of Cincinnati; The New York Quinine & Chemical Works, of New York City, and the Tailby-Nason Co., of Boston.

MINNESOTA PHARMACEUTICAL ASSOCIATION.

A partial program of the Thirty-third Annual convention of the Minnesota Pharmaceutical Association was presented in the last issue of the JOURNAL, page 218.

The meeting was a success in every way and one hundred and fifty new members were added to the roll of membership. Among the visitors from other states were Prof. Henry Kraemer, of Philadelphia; President Binz, of the California Pharmaceutical Association; W. S. Parker, Secretary of the North Dakota Board of Pharmacy, and Thomas H. Potts, of the National Association of Retail Druggists.

President John F. Danek, in his address, recommended that the publicity work be continued on the same plan as during the year past; the work of the Legislative Committee was commended; price maintenance measures were advocated; trading stamp and coupon methods were disapproved; and a closer cooperation between pharmacists and physi-

cians was advised. The Association went on record in favor of establishing a scholarship each year for one student at the College of Pharmacy of the University of Minnesota, this scholarship to be given to a second-year student who had shown his ability during the first year.

Secretary E. L. Newcomb, in presenting his report, stated that over 60 percent of all the pharmacists of Minnesota now belonged to the Association. Approximately twenty thousand letters have been sent out from his office during the year. He also referred to the printed Proceedings of various state associations that were being bound for preservation by the Association.

The Treasurer's report showed that the affairs of the Association were in good financial condition. The work of the Association is divided into sections and in each of these there were many interesting papers. Accompanying a paper by Prof. E. L. Newcomb before the Scientific Section, on "A New Source of Supply for Ergot," was an exhibit consisting of different samples of waste cereals containing from seventeen to eighteen percent select Ergot, which the speaker stated was the equal in pharmaceutical quality to that which was imported from Spain and Russia. It has not come into general use on account of the difficulty in mechanically separating it from the cereal.

Prof. Henry Kraemer delivered an illustrated lecture on "Pharmacognosy in Its Relation to the Practice of Pharmacy," dwelling upon the relation of pharmacognosy to the study of raw materials and products manufactured from them. He pointed out the difference between pharmacognosy and materia medica, both in the subjective treatment and the objects to be obtained in the respective sciences. He stressed the fact that pharmacognosy is an active discipline and concerned with the solution of every-day problems and the producing of tangible results. He showed how the retail pharmacist could apply this professional knowledge to make himself more valuable to the public and himself. The slides used by Prof. Kraemer and prepared by him are divided into two classes, those dealing with the identification and determination of the quality of commercial drugs and allied products and those dealing with the determination of the composition of complex commercial products. In connection with the latter, he made a number of valuable suggestions of opportunities to the pharmacist in the manufacturing line.

NEW OFFICERS FOR 1917–18.

The following officers were elected for the ensuing year: *President*, Louis J. Aberwald; *Vice-President*, Charles MacGregor, Detroit; *Second Vice-President*, Edward A. Grochen, Duluth; *Third Vice-President*, W. C. Haney, Marshall; *Secretary* E. L. Newcomb; *Treasurer*, R. J. Messing; *Member Executive Committee*, J. F. Danek.

The following were nominated for the State Board of Pharmacy: Arthur von Rohr, Max Menzel, R. J. Messing, M. G. Johnson and R. E. Desmond.

The Minnesota Prerequisite Bill was approved by the Association and is printed under "Pharmacist and the Law."

COLLEGE OF JERSEY CITY.

Just 100 years ago, in 1817, Selenium was discovered by Jons Jakob Berzelius, the great Swedish chemist, who enriched chemistry with so many important discoveries and who is the father of our present system of chemical nomenclature.

This event was duly celebrated at the College of Jersey City on Wednesday evening, February 7, by a lecture on "Centenary of the Discovery of Selenium and its Use in Pharmacy, Medicine and Industry." This lecture was delivered by Friedrich Klein, Ph.D., Director of the Chemical Laboratory at the College, who has made Selenium a life long study. Dr. Klein gave the origin of the name, from the Greek "selene," meaning "moon," and also its discovery. Selenium was first observed as a red powder deposited in the lead chambers used in the manufacture of sulphuric acid at Gripsholm, Sweden.

The lecturer also called attention to the valuable uses of selenium, in pharmacy, medicine and industry. One of its principal applications, which has been brought forth of late, is its use in the treatment of malignant growths or "cancer." Dr. Klein illustrated his lecture with numerous demonstrations.

The lecture was well attended by students of the College of Jersey City, by members of the Alumni Association, by the faculty and by the members of the pharmaceutical, medical and dental professions. A lively discussion followed the lecture and Dr. Klein was given a rising vote of thanks.

UNIVERSITY OF ILLINOIS.

A meeting of the executive committee of the Alumni Association of the University of Illinois School of Pharmacy was held at the college building February 14. The treasurer reported a balance of $642.00 in the Alumni Ebert Scholarship Fund, and the committee unanimously decided to collect outstanding pledges and enough new subscriptions to bring the sum up to $1,000.00, the interest on which would be given yearly as a prize to the student graduating with the highest general average.

President Leo L. Mrazek announced that, moved by a spirit of loyalty and good will toward his Alma Mater, he would give $25.00 each year to the student attaining the highest average in chemistry. With the $25.00 prize which Mr. Andrew Scherer gives to the student standing highest in pharmacy, the microscope awarded annually by Mr. Herman Fry for excellence in materia medica, and the proposed Ebert prize for general average, this offer of Mr. Mrazek furnishes the school with a prize for each department.

The Secretary announced that in view of the fact that 1917 is the 25th anniversary of W. B. Day's graduation from the school, and a like time since he first became associated, as an officer, with the school, that a number of people had broached the subject of a reception. With unanimous consent it was decided to hold a "W. B. Day Testimonial Dinner" on June 6, that men from every branch of pharmacy, wholesale, retail, the teaching profession and especially the Illinois and American Pharmaceutical Association be invited to attend the dinner, and do honor to the man who has served so faithfully the pharmaceutical profession. The Alumni Association offered to finance and direct the project, with the President and Secretary in direct charge.

MASSACHUSETTS COLLEGE OF PHARMACY.

The annual meeting of the Alumni Association of the Massachusetts College of Pharmacy for the election of officers was held at the Crawford House, January 17, 1917. Dinner was served and the business meeting followed. President H. H. Smith presided.

That the work of the officers for the past year has been appreciated by the Association, was shown by the re-election of the entire staff. They are as follows:

President, H. H. Smith, M.D.; *Vice-Presidents*, J. E. Stacey, Jennie E. Sumner and A. M. Dupaul; *Secretary*, George L. Burroughs; *Treasurer*, Leon A. Thompson; *Auditor*, E. H. LaPierre.

F. F. Ernst was elected member of the council. The members of the graduating class of 1916 were made active members of the Association and H. A. Winn was elected to associate membership. The name of J. J. Tobin of the State Board of Pharmacy was proposed for honorary membership.

The President's address contained a résumé of the activities of the Association for the past year and was notable for its interest, the broad scope of the matters discussed, and for the excellence of the recommendations which it contained.

Action was taken regarding the banquet complimentary to the graduating class to be given on May 22, and also regarding the entertainment to be provided at the annual meeting of the Massachusetts Pharmaceutical Association to be held in June. It was decided to continue the series of scientific meetings and to give them wider publicity. Committees were appointed to consider ways and means of equipping the alumni room in the new college building and to determine the part which the Association will play in the dedication exercises.

The advisability of appointing a legislative committee was discussed as was also the possible effects upon doctors and pharmacists of the social insurance bill now before the legislature.

ST. LOUIS COLLEGE OF PHARMACY.

The course of special lectures to students of all classes organized at the St. Louis college last autumn was continued on January 10, when Mr. Oscar G. Salb, a graduate of Purdue University and at present active in biological research in St. Louis, delivered an evening lecture on "Physiological Testing of Drugs on the Lower Animals," illustrated by practical demonstrations. Aconite, cannabis indica, ergot, and digitalis were the drugs selected, and their action was shown by experiments so carefully selected that the audience readily grasped the principles underlying their application.

On January 25 a visit was paid to the Mis-

souri Botanical Garden under the guidance of Professor Hemm and Associate-Professor Suppan, fifty-eight members of the classes being present. The visitors were so fortunate as to secure the services of Mr. G. A. Pring, superintendent of the collection of orchids and other exotics at the garden, who showed them the general arrangement of the various departments and pointed out a number of plants of medicinal and economic interest. The expedition was chiefly of an explanatory nature, to enable the students to find the position of any particular medicinal plant or plants which they might desire to study in the growing state. At a later date when the weather becomes favorable for the outside growing of plants, another visit will be made to the garden.

THE PHARMACIST AND THE LAW.

MINNESOTA PREREQUISITE BILL.

A Bill for an Act, to amend Section 2330 of the Revised Laws of 1905, as amended by Chapter 346, Laws 1907, being Section 5032 General Statutes, 1913, relating to qualifications entitling Pharmacists to registration.

Be it Enacted by the Legislature of the State of Minnesota:

Section 1.—That Section 2330 of the Revised Laws of 1905, as Amended by Chapter 346, Laws 1907, being Section 5032, General Statutes, 1913, be amended so as to read as follows:

5032.—To be entitled to examination by the Board as a pharmacist, the applicant shall be at least twenty-one years old, shall have successfully completed the work of two (2) college years, of not less than seven (7) months each, at a college or school of pharmacy, which, in the judgment of the Board, maintains proper standards, as such, and shall have had at least two (2) years of practical experience in drug stores where physicians' prescriptions are usually compounded; provided, however, that if the applicant shall have successfully completed a longer course than two (2) college years, of seven (7) months each, in such school or college of pharmacy, an additional year, or more, so successfully completed, shall be equivalent to one (1) year of such practical experience.

Provided that, any person, who is, at the time of the passage of this amendment, actually employed in a drug store, who shall on or before the first of October, 1917, file with the Board a sworn statement of proof of that fact, or who is registered by said Board as an assistant pharmacist, shall be exempt from the requirement of attendance at a college or school of pharmacy, but shall be entitled, if of the required age, to examination upon the completion of four (4) years' experience, as the same is herein defined, provided further; that one (1) year of college work, as herein defined, shall be equivalent to one (1) year of experience. If upon examination the Board finds him qualified, he shall be entitled to registration as such pharmacist.

Section 2.—This Act shall take effect and be in force from and after its passage.

HEAVY FINE ASSESSED AGAINST SARGOL SELLERS.

According to a report from Auburn, N. Y., February 17, Wylie B. Jones and Herbert E. Woodward, both of Binghamton, found guilty in United States Court for fraudulent use of the mails in selling sargol, an alleged "flesh producer," were sentenced by Judge George W. Ray to pay fines aggregating $30,000. The defendants announced that they would waive all appeals and paid their fines promptly.

Jones paid $20,000 and Woodward paid $10,000, and both were discharged. The trial lasted thirteen weeks.

DRUGGIST FINED FOR USING LICENSE OF ANOTHER.

Pleading guilty to the indictments against him, Edward Smith, of Philadelphia, was fined $50 by Judge Wessel, in Quarter Sessions Court, for practicing pharmacy without a license or being registered. Smith was placed on probation for a year. Assistant Attorney-General Joseph L. Kun, representing the State Pharmaceutical Board, stated that Smith had used the certificate of a dead pharmacist to get positions with drug stores as a qualified assistant.

CHANGES OF ADDRESS.

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the JOURNAL unless notice of change of address is received before shipment or mailing.

Both the old and the new address should be given thus:

HENRY MILTON,
From 2342 Albion Place, St. Louis, Mo.
To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

CHANGE OF ADDRESS SINCE JANUARY 18, 1917.

ALSBERG, C. L.
From 3443 Fourteenth St., N. W., Washington, D. C.,
To Cosmos Club, Washington, D. C.

GILBERT, C. T.
From cor. Conn. Ave. & Boardwalk, Atlantic City, N. J.
To 20 E. North Ave., Atlanta, Ga.

NEVIN, THOS.
From 35 W. 33rd St., New York, N. Y.
To 18–20 E. 41st St., New York, N. Y.

PLACAK, HARRY.
From 3039 Woodland Ave., Cleveland, Ohio.
To 3625 Woodbridge Ave., Cleveland, Ohio.

SIMPSON, ROBERT,
From 201 N. 36th St., Philadelphia, Pa.
To Race & 36th St., Philadelphia, Pa.

HEMM, FRANCIS,
From 3854*a* Arsenal St., St. Louis, Mo.
To 2108 Locust St., St. Louis, Mo.

PRATT, J. W.
From cr. Welsh's Drug Store, Milton, Mass.
To cr. Durgin's Pharmacy, Inc., Winchendon, Mass.

LILLY, J. K., JR.,
From 1704 N. Penn. St., Indianapolis, Ind.
To 1044 N. Delaware St., Indianapolis, Ind.

LICHTHARDT, G. H.,
From 1800 M. St., Sacramento, Cal.
To Box 510, Sacramento, Cal.

MARTIN, A. E.,
From P. O. Box 534, Rome, Ga.
To Box 242, Macon, Ga.

PUTT, EARL B.,
From 641 Washington St., New York, N. Y.
To 1034 Oak Hill Ave., Youngstown, Ohio.

WATSON, G. N.,
From 1001 Maine St., Lawrence, Kans.
To 1009 Maine St., Lawrence, Kans.

BLOCH, J. M.,
From 1570 St. Johns Pl., Brooklyn, N. Y.
To 1308 Prospect Place, Brooklyn, N. Y.

BRATTER, B.,
From 1204 Evergreen, Bronx, New York, N. Y.
To 841 Jenning St., Bronx, New York, N. Y.

DE YONCKHEERE, J. F.,
From 455 Van Dyke Ave., W., Detroit, Mich.
To 438 Van Dyke Ave., W., Detroit, Mich.

MCCORMICK, P. J.,
From 1346 Mass. Ave., Cambridge, Mass.
To 27 South St., Brighton, Mass.

SCHAAK, M. F.,
From 108 Penn. St., Brooklyn, N. Y.
To 710 Victoria St., Corona, Cal.

DUNBAR, E. A.,
From U. S. Naval Station, Guantanamo Bay, Cuba.
To U. S. Naval Hosp., Portsmouth, N. H.

HAESELER, L. M.,
From 1947 W. Madison St., Chicago, Ill.
To 1959 W. Madison St., Chicago, Ill.

MOORE, W. I.,
From 566 Kearney St., San Francisco, Cal.
To 903 N. Electric St., Alhambra, Cal.

BRADLEY, J. F.,
From 1443 Ogden Ave., Chicago, Ill.
To 104 S. Loomis St., Station C, Chicago, Ill.

MCCARTNEY, F. L.,
From cr. Sharp & Dohme, 41 John St., New York, N. Y.
To 154 W. 18th St., New York, N. Y.

SMITH, GUY L.,
From Juneau, Alaska.
To opposite Post Office, cr. Guy's Drug Store, Douglas, Alaska.

DECEASED SINCE JANUARY 18, 1917.

LACHAPELLE, A. J., Turners Falls, Mass.
LLEWELLYN, J. F., Mexico, Mo.

TRANSFERRED FROM REGULAR MEMBER TO DUES ONLY.

BAUM, WM. F., 318 Vermillion St., Danville, Ill.

MAJOR, A., 461 Pearl St., New York N. Y.

TRANSFERRED FROM DUES ONLY TO REGULAR MEMBER.

SCHUH, P. G., 607 Commercial Ave., Cairo, Ill.

PEACOCK, B. L. (MRS.), 3701 Germantown Ave., Philadelphia, Pa.

WAR DEPARTMENT.

List of changes of station during the month of February 1917 in the cases of Sergeants, First Class, and Sergeants, Medical Department.

SERGEANTS, FIRST CLASS.

Rasmus P. Nelson, from Fort Screven, to Fort McPherson.

Meyer McC. Dougherty, from Fort Mcpherson, to Fort Screven.

Oscar Gabsch, from the Army Medical School, Washington, D. C., to Fort Mackenzie.

SERGEANTS.

Peter Pfranklin, from Columbus Barracks, to the Aviation School, Memphis, Tenn.

Frank C. Wagner, from on duty with the Ohio Militia, to duty at Ft. Benjamin Harrison.

Joseph H. Peberdy, from on duty in the Southern Department, to duty with the Ohio Militia.

TREATMENT OF BURNS WITH PARAFFIN.

Considerable attention has been directed to the method of Barthe de Sandfort for the treatment of burns. This consists of the application of a proprietary modification of hard paraffin known as "ambrine," which is sprayed in a melted state over the burn, and allowed to congeal. It has, undoubtedly, given most satisfactory results. The author found that these were due entirely to the physical properties of ambrine, the constitution of which is a trade secret, but which is probably hard paraffin modified by exposure to high temperature, such as that of superheated steam. Even better results than those obtained with "ambrine" have followed the use of an antiseptic base prepared as follows: Hard paraffin, 67, is melted, soft paraffin, 25, and olive oil, 5, are added. Resorcinol, 1, dissolved in a little alcohol, is then added, followed, when the mixture has cooled to about 55° C., by eucalyptus oil, 2. This is known as "No. 7 paraffin." Since resorcinol is now difficult to obtain, the formula may be modified thus: Beta-naphthol, 0.25; eucalyptus oil, 2; olive oil, 5; soft paraffin, 25; hard paraffin, 67–75. The burn is washed with sterile water and dried by placing a piece of dry gauze over the surface. Melted "No. 7 paraffin" at 50° C. is then gently brushed over the surface with a sterile broad camel-hair brush. The paraffin base melts at 48° C., so the necessary temperature for application may be taken at the point when a pellicle begins to form on the surface of the melted ointment. A spray may be used, but is unnecessary except in very painful burns. When set, the paraffin coating is covered with a thin layer of cotton. This cotton is treated with a second coating of "No. 7 paraffin," and then finished with the usual bandage. At first, the burns are usually dressed daily. Very septic lesions should be first cleansed with warm boric acid fomentations. The results obtained have been excellent. The treatment is equally efficacious for ulcerated frost-bite of "trenchfoot."—Lieut.-Colonel A. J. Hall (*B. M. J.*, 1917, 1, 37); through *Pharm. Journal.*

JOURNAL ANNOUNCEMENTS.

Subscriptions: Annual subscriptions in advance, including postage: United States and Mexico, $4.00; Canada, $4.35; foreign countries, $4.50. Single copies, 35 cents. Remittances should be made payable to Treasurer H. M. Whelpley, but mailed to JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, Easton, Pa., or 253 Bourse Building, Philadelphia, Pa. Under the rules of the Post Office the JOURNAL can be regularly mailed only to bona-fide paid subscribers.

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Membership: Applications for membership in the American Pharmaceutical Association may be made of any of the officials. The annual payment of five dollars covers the annual dues and subscription to the JOURNAL. Members receive, also, the publications of the Association that are distributed free of charge.

Further information will gladly be furnished by any of the officers of the Association and members.

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SHOW YOUR INTEREST IN PHARMACY.

For several months past a request has appeared in the JOURNAL that members indicate whether they desire a cut of the insignia of the Association with name "Member" above, as appended, for their Prescription Blanks. A sufficient number of members have signified their interest and therefore these cuts may now be had by addressing the JOURNAL Office as below.

The cost of single type-cut, including postage, is fifteen cents; when two are ordered at the same time, twenty-eight cents. **The charge is simply to cover cost and postage.**

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